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DEPARTMENT OF HEALTH  
STATE OF HAWAII

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Petitioner CITY AND COUNTY OF HONOLULU ("Petitioner City"), by and through its attorneys, DONNA Y. L. LEONG, Corporation Counsel, and JEFF A. LAU, Deputy Corporation Counsel, hereby requests a contested case hearing to contest certain permit conditions included in the National Pollutant Discharge Elimination System ("NPDES") Permit No. HI 0021296 and

Zone of Mixing (“ZOM”) for the Kailua Regional Wastewater Treatment Plant (“KRWWTTP”), issued by Respondent DEPARTMENT OF HEALTH, STATE OF HAWAII (“DOH”), effective March 16, 2014 (“Final Permit”).

### **LEGAL AUTHORITY**

1. This action is brought pursuant to Chapter 91 and § 342D-6 of the Hawaii Revised Statutes, Chapter 11-55 and §§ 11-1-21 et seq. and 11-55-36 of the Hawaii Administrative Rules (“HAR”).

### **CONTESTED PERMIT CONDITIONS**

2. Petitioner City asserts that DOH has not properly evaluated the factual and legal issues, has acted arbitrarily and/or capriciously, and has abused its discretion and/or has otherwise erred in the issuance of the following permit conditions in the Final Permit:

- A. Maximum Daily Discharge Limitation for Enterococci of 93,186 Colony Forming Units (“CFU”)/100 Milliliters (“mL”). (Part A.1.)
- B. Average Monthly Discharge Limitation for Enterococci of 6,510 CFU/100 mL. (Part A.1.)
- C. Application of enterococci geometric mean and single sample maximum limitations without depth limitations in the receiving waters.
- D. Maximum Daily Discharge Effluent Limitations for Chlordane of 0.74 Micrograms per Liter (“ug/L”) and associated pounds per day. (Part A.1.)
- E. Average Annual Discharge Effluent Limitation for Chlordane of 0.030 ug/L and associated pounds per day. (Part A.1.)
- F. Maximum Daily Discharge Effluent Limitation for Dieldrin of 0.35 ug/L and associated pounds per day. (Part A.1.)
- G. Average Annual Discharge Effluent Limitation for Dieldrin of 0.0047 ug/L and associated pounds per day. (Part A.1.)

- H. Average Monthly and Average Weekly mass based effluent limitations of 3,178 lbs/day and 4,766 lbs/day, respectively, for Biochemical Oxygen Demand ("BOD") and Total Suspended Solids ("TSS"). (Part A.1)
- I. Final Effluent Single Sample Maximum Effluent Limitation for Ammonia Nitrogen of 14,700 ug/L and associated pounds per day. (Part A.1)
- J. Final Effluent Single Sample Maximum Effluent Limitation for Nitrate + Nitrite Nitrogen of 15,000 ug/L and associated pounds per day. (Part A.1)
- K. Use of the *Tripneustes gratilla* ("T. gratilla") sea urchin for whole effluent toxicity ("WET") monitoring for compliance requirements. (Parts A.1. and B.1.)
- L. The requirement to conduct a ZOM Dilution Study Analysis. (Part E.5.)
- M. The requirement to report "any" planned physical alterations or additions to the permitted facility. (Part I.5)

### **FACTS AND ISSUES RAISED**

3. On or about December 16, 2008, Petitioner City submitted to the Director of DOH a NPDES Permit Application and a CWB-ZOM FORM Application for ZOM for the KRWWTTP (hereinafter, collectively referred to as the "Permit Application").

4. On June 30, 2009, DOH administratively extended the existing NPDES Permit No. HI 0021296 (effective September 2, 2006) and ZOM, pending the reapplication process and issuance of new permits.

5. Additional information in support of the Permit Application was submitted by Petitioner City to DOH on or about December 2, 3, and 13, 2012, March 13, 2013, June 19, 2013 and July 23, 2013.

6. On March 4, 2013, Petitioner City received a letter from DOH dated February 20, 2013, together with a Draft NPDES Permit ("Draft Permit") and Fact Sheet with a Request to submit comments regarding the Draft Permit within 14 calendar days from the date of the letter. The letter also stated that a public notice package would be prepared and sent to Petitioner City on March 8, 2013 and requested that the City have the Notice published in the Honolulu Star Advertiser on March 21, 2013.

7. DOH extended the deadline for submittal of Petitioner City's comments to March 13, 2013.

8. Petitioner City submitted its comments to the Draft Permit by letter dated March 13, 2013.

9. On March 13, 2013 DOH informed Petitioner City by email that it needed to delay the Public Notice.

10. By letter dated September 13, 2013, Petitioner City was provided a Notice of Proposed Water Pollution Control Permit ("Notice"), the Public Notice Draft NPDES Permit ("Public Notice Permit") and Fact Sheet with a Request to have the Notice published in the Honolulu Star Advertiser on September 25, 2013.

11. By letter dated September 18, 2013, DOH notified Petitioner City of an error in Part A.1 of the Public Notice Draft NPDES Permit and issued a revised Public Notice Permit.

12. The revised Public Notice Permit was published on September 25, 2013.

13. Petitioner City submitted its comments to the revised Public Notice Permit by letter dated October 25, 2013. On or about October 22, 2013, Petitioner City submitted a Technical Memorandum regarding numerical dilution modeling for the KRWWTWP outfall. DOH has not responded to the Technical Memorandum or otherwise incorporated the data into the Final Permit.

14. On January 14, 2014, Petitioner City received an email from DOH with a letter dated January 14, 2014, notifying the City of the issuance of a final permit, and with the following enclosures: (1) NPDES Permit; and (2) Fact Sheet.

15. On January 15, 2014, DOH requested that Petitioner City disregard the issuance of the final permit and indicated that it would be sending a revised final permit in the mail.

16. On January 21, 2014, Petitioner City received an email from DOH with a letter dated January 16, 2014, notifying the City of the re-issuance of the final permit, and with the following enclosures: (1) NPDES Permit; (2) Fact Sheet; and (3) Response to Comments on Public Notice Permit and Tentative Determinations. A true and correct copy of said Fact Sheet and Response to Comments is attached hereto as Exhibit "A".

17. On January 23, 2014, Petitioner City received the mailed hardcopy, which reflected a postmark date of January 22, 2014.

18. By letter dated January 28, 2014, Petitioner City requested that DOH voluntarily withdraw its January 16, 2014 issuance of the Final Permit to correct the material and substantial errors requiring its reissuance.

19. By letter dated February 14, 2014, DOH withdrew the permit issued on January 16, 2014 and issued a revised NPDES Final Permit ("Final Permit") with an effective date of March 16, 2014. A true and correct copy of said letter, (1) Final Permit and (2) Standard NPDES Permit Conditions, Version 14 are attached hereto as Exhibit "B".

**I. ENTEROCOCCI DISCHARGE LIMITATIONS**

20. Part A.1. of the Final Permit sets forth a Final Effluent Maximum Daily Discharge Limitation of 93,186 CFU/100 mL and a Final Effluent Average Monthly Discharge Limitation of 6,510 CFU/100 mL.

21. The 93,186 CFU/100 mL and 6,510 CFU/100 mL discharge limitations are unreasonable and arbitrary limits that ignore the significant die-off rates observed in marine environments, and are further not supported or justified by the applicable State water quality standards, the available receiving water monitoring data for the KRWWTWP, or the information provided in the City's updated ZOM Dilution Analysis.

**II. ENTEROCOCCI LIMITATIONS BEYOND 300 METERS AND BELOW 33 METERS**

22. Part C.1.a.2 of the Final Permit sets forth a geometric mean of 35 CFU/100 mL and a single sample maximum without specifying a value for the applicable single sample maximum or the location of the marine waters to which these criteria apply.

23. Although the permit does not specify a value for the applicable single maximum or the waters to which these criteria apply, the Fact Sheet indicates that a value of 501 CFU/100 mL is intended to be used for marine recreational waters from 300 meters (1000 feet) from the shoreline until three miles from the shore.

24. The application of the enterococci limits (single sample maximum and geometric mean) set forth in Section C.1.a.2 of the Final Permit without a depth limitation is contrary to DOH's explicit publicly noticed longstanding policy that enterococci limits should apply only to a depth of 33 meters.

### **III. CHLORDANE DISCHARGE LIMITATIONS**

25. Part A.1. of the Final Permit requires Chlordane influent and effluent monitoring and sets forth a Final Effluent Maximum Daily Discharge Limitation of 0.74 ug/L and a Final Effluent Average Annual Discharge Limitation of 0.030 ug/L and associated pounds per day.

26. The chlordane requirements and discharge limitations are unreasonable and arbitrary limits imposed based on a “reasonable potential analysis” that is: (i) flawed and seriously lacking in statistical integrity; (ii) not scientifically defensible; and (iii) not supported or justified by the applicable State water quality standards, DOH policy, the State Toxics Control Program, the available effluent monitoring data for the KRWWTWP, or the information provided in the City’s updated ZOM Dilution Analysis.

### **IV. DIELDRIN DISCHARGE LIMITATIONS**

27. Part A.1. of the Final Permit requires Dieldrin influent and effluent monitoring and sets forth a Final Effluent Maximum Daily Discharge Limitation of 0.35 ug/L and a Final Effluent Average Annual Discharge Limitation of 0.0047 ug/L and associated pounds per day.

28. The dieldrin requirements and discharge limitations are unreasonable and arbitrary limits imposed based on a so-called “reasonable potential analysis” that is: (i) flawed and seriously lacking in statistical integrity; (ii) not scientifically defensible; and (iii) not supported or justified by the applicable State water quality standards, DOH policy, the State Toxics Control Program, the available effluent monitoring data for the KRWWTWP, or the information provided in the City’s updated ZOM Dilution Analysis.

**V. MASS BASED EFFLUENT LIMITATIONS FOR BOD AND TSS**

29. The KRWWTWP was designed to provide secondary treatment for 15.25 million gallons per day ("mgd") of wastewater.

30. The design wastewater flow of 15.25 mgd has been consistently and appropriately identified in the KRWWTWP NPDES permit applications and submissions.

31. 40 CFR 122.45(b)(1) and the Permit Writer's Manual require using the design flow rate of the facility to calculate mass based effluent limitations for a POTW in an NPDES permit.

32. The calculation of mass based effluent limits for Five- Day BOD and TSS should be based on the KRWWTWP design flow of 15.25 mgd.

33. The receiving waters for the KRWWTWP have been shown to be in compliance with the State's water quality antidegradation provisions.

34. The Final Permit does not include the appropriate mass based effluent limitations because of apparent technical mistakes, such as errors in calculation and/or mistaken interpretations of law made in determining the permit conditions.

**VI. AMMONIA NITROGEN LIMITATIONS**

35. Part A.1. of the Final Permit sets forth a single sample maximum effluent limitation for ammonia nitrogen of 14,700 ug/L and associated pounds per day value, to be evaluated on a monthly basis.

36. The ammonia nitrogen discharge limitations are unreasonable and arbitrary because the method that DOH used to conclude that the discharge has the reasonable potential to exceed the water quality standards in the receiving waters is contrary to the requirements of HAR § 11-54-6 (b)(3) and is not supported or justified by the available receiving water monitoring data for the KRWWTWP.



37. In accordance with the requirements of NPDES Permit No. HI 0021296 and ZOM effective September 2, 2006, Petitioner City submitted quarterly ocean monitoring data for ammonia nitrogen with samples collected at three discrete depths - surface, middle and bottom ocean depths from four ZOM stations and two reference stations around the outfall.

38. Notwithstanding this data, DOH evaluated the ammonia nitrogen data by calculating a value that the Fact Sheet identifies as a “maximum annual geometric mean,” which DOH used for comparison to the State water quality standards.

39. DOH’s reliance on the “maximum annual geometric mean” to establish effluent limits for ammonia nitrogen is arbitrary and capricious and inconsistent with the requirements of HAR § 11-54-6-(b)(3) for Class A Dry Open Coastal Waters because the limits imposed are based on a so-called “reasonable potential analysis” that is: (i) flawed and seriously lacking in statistical integrity; (ii) not scientifically defensible; and (iii) not supported or justified by the applicable State water quality standards or the information provided in the City’s updated ZOM Dilution Analysis.

## **VII. NITRATE + NITRITE LIMITATIONS**

40. Part A.1. of the Final Permit sets forth a Single Sample Maximum effluent limitation for Nitrate + Nitrite Nitrogen of 15,000 ug/L and associated pounds per day value, to be evaluated on a monthly basis.

41. The Nitrate + Nitrite Nitrogen discharge limitations are unreasonable and arbitrary because the method that DOH used to conclude that the discharge has the reasonable potential to exceed the water quality objectives are contrary to the requirements of HAR § 11-54-6(b)(3) and are not supported or justified by the available receiving water monitoring data for the KRWWTP.

42. In accordance with the requirements of NPDES Permit No. HI 0021296 and ZOM, effective September 2, 2006, Petitioner City submitted quarterly ocean monitoring data for

Nitrate + Nitrite Nitrogen from samples collected at three discrete depths - surface, middle and bottom ocean depths from four ZOM stations and two reference stations.

43. Notwithstanding this data, DOH evaluated the data by calculating a value that the Fact Sheet identifies as a “maximum annual geometric mean” for a single station which DOH used for comparison to the State water quality standards.

44. DOH reliance on the “maximum annual geometric mean” value to establish effluent limitations for nitrate + nitrite is arbitrary and capricious and inconsistent with the requirements of HAR § 11-54-6-(b)(3) because the limits imposed are based on a so-called “reasonable potential analysis” that is: (i) flawed and seriously lacking in statistical integrity; (ii) not scientifically defensible; and (iii) not supported or justified by the applicable State water quality standards or the information provided in the City’s updated ZOM Dilution Analysis.

#### **VIII. USE OF T. GRATILLA FOR WET MONITORING**

45. Parts A.1. and B.1. of the Final Permit require Petitioner City to conduct WET testing using solely the T. gratilla sea urchin species.

46. The reliance on the T. gratilla species to conduct WET testing as a compliance requirement is inappropriate for a number of reasons, including: (a) after more than a decade of development, EPA only recently placed the guidance method for conducting Whole Effluent Toxicity Tests on the sea urchin T. gratilla in final form in April 2012; (b) DOH has only recently modified the test evaluation method under Part B.3. of the Permit to specify use of the Test of Significant Toxicity (“TST”) approach; (c) there has not been an opportunity for the Petitioner City to conduct the necessary T. gratilla testing and evaluation for permit/regulatory compliance; (d) T. gratilla does not measure biological relevance; and (e) past results of the T. gratilla tests are inconsistent with WET test results using the other permit-required test species (*Ceriodaphnia*.

*dubia*), as well as additional EPA-approved species tested by the City, which provide clear evidence of no unacceptable toxicity.

47. T. gratilla WET testing should remain in the permit not as a discharge limitation, but only as a trigger to conduct accelerated monitoring and TRE/TIE requirements.

## **IX. ZOM DILUTION STUDY**

48. Part E.6 of the Final Permit unreasonably mandates a requirement to conduct a ZOM Dilution Analysis Study which identifies minimum and average dilution at the edge of the ZOM within three (3) years of the effective date of the Final Permit.

49. The ZOM Dilution Analysis Study requirement arbitrarily and capriciously mandates that the City verify the presence or absence of assimilative capacity for nitrate + nitrite and ammonia nitrogen based on receiving water data at and beyond the edge of the ZOM, despite DOH's Fact Sheet determination that assimilative capacity is already present in the receiving water.

50. The ZOM Dilution Analysis Study requirement arbitrarily and capriciously ignores the dilution modeling methodology developed by the City's technical consultant HDR/HydroQual. The dilution modeling methodology and resulting Technical Memorandum incorporated changes to modeling inputs that resulted from discussions with DOH's permit writing consultant during the ongoing application review process of the City's NPDES permits over the past 2 years.

51. DOH unreasonably ignored the recent and updated HDR/HydroQual study that the City submitted and instead applied an obsolete minimum dilution value based on the results of a 1985 Dilution Study conducted by an EPA contractor using EPA's outdated Plume Model.

52. The imposition of the permit conditions listed above would result in the imposition of costly modifications and increased operating costs upon the KRWWTWP without any discernable benefit to public health or the environment.

**X. PLANNED CHANGES**

53. Standard NPDES Permit Conditions 16.a.(1), (2), (3) requires that the Permittee provide notice for any planned physical alterations or additions to the facility when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged and applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1) or § 19; or

(3) The alteration or addition results in a significant change to the Permittee's sludge use or disposal practices, and the alteration addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

54. The reporting requirements under Standard NPDES Permit Conditions 16.a.(1), (2), or (3) are clearly intended to require reporting of planned alterations and/or additions to the facility which result in changes to discharge of pollutants and/or sludge.

55. Part I.5, as written, requiring that "any" planned alterations or additions be reported quarterly implies that approval for any "planned changes," no matter how minor, will be required prior to implementation of alterations and/or additions which will impede normal operation and maintenance activities of the facility.

**RELIEF REQUESTED**

WHEREFORE, Petitioner City prays as follows:

1. That Part A.1. of the Final Permit be revised to eliminate the Effluent Discharge Limitations for Enterococci and require monitoring for effluent samples only.
2. That Part A.1. of the Final Permit be revised to eliminate the Effluent Discharge Limitations and effluent monitoring requirements for Chlordane.
3. That Part A.1. of the Final Permit be revised to eliminate the Effluent Discharge Limitations for Dieldrin and effluent monitoring requirements.
4. That Part A.1. of the Final Permit be revised to correct the mass based Effluent Discharge Limitations for BOD and TSS.
5. That Part A.1 of the Final Permit be revised to eliminate the Effluent Discharge Limitations for Ammonia Nitrogen and require monitoring for ammonia nitrogen effluent samples only.
6. That Part A.1. of the Final Permit be revised to eliminate the Effluent Discharge Limitation for Nitrate + Nitrite and require monitoring for nitrate + nitrite nitrogen effluent samples only.
7. That the provisions of the Final Permit be revised to exclude the T. gratilla WET results as a water quality compliance parameter until such time that the test and evaluation methods for T. gratilla have been refined.
8. That the provisions of the Final Permit be revised so that any enterococcus discharge limitations for marine recreational waters be subject to a depth limitation of 33 meters.
9. That Part E.5. of the Final Permit be revised to eliminate the requirement for a ZOM Dilution Study Analysis.

10. That Part I.5 of the Final Permit be revised to eliminate the requirement for quarterly reporting of "any" planned alterations or additions.

11. That the effect of the permit conditions contested herein be stayed during the pendency of this action.

12. That the CITY be awarded such other and further relief as shall be deemed just, proper and appropriate.

DATED: Honolulu, Hawaii, March 14, 2014.

DONNA Y.L. LEONG  
Corporation Counsel

By 

JEFF A. LAU  
Deputy Corporation Counsel  
Attorneys for Petitioner  
CITY AND COUNTY OF HONOLULU

DEPARTMENT OF HEALTH

STATE OF HAWAII

CITY AND COUNTY OF HONOLULU,	)	DOCKET No. _____
	)	
Petitioner,	)	DECLARATION OF JEFF A. LAU;
	)	EXHIBITS "A" AND "B"
vs.	)	
	)	
DEPARTMENT OF HEALTH, STATE OF	)	
HAWAII,	)	
	)	
Respondent.	)	
_____	)	

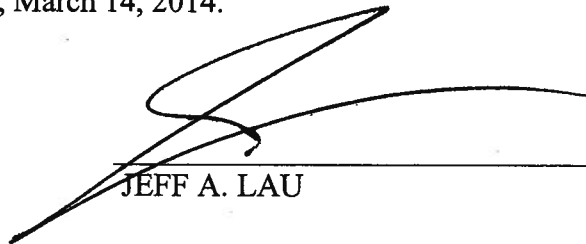
**DECLARATION OF JEFF A. LAU**

JEFF A. LAU hereby declares the following:

1. I am an attorney licensed to practice law before all State and Federal courts of the State of Hawaii, and am one of the attorneys representing Petitioner CITY AND COUNTY OF HONOLULU in the above-entitled action.
2. I make this declaration based upon personal knowledge and I am competent to testify as to all matters stated herein.
3. Attached as Exhibit "A" is a true and correct copy of the: (1) Kailua Regional Wastewater Treatment Plant Fact Sheet; and (2) Response to Comments on Public Notice Permit and Tentative Determinations dated January 16, 2014.
4. Attached as Exhibit "B" is a true and correct copy of the: (1) letter from DOH withdrawing the permit issued on January 16, 2014; (2) Kailua Regional Wastewater Treatment Plant National Pollutant Discharge Elimination System Permit No. HI 0021296; and (3) Standard NPDES Permit Conditions, Version 14 dated February 14, 2014.

I declare under penalty of perjury that the foregoing facts are true and correct to the best of my knowledge and belief.

DATED: Honolulu, Hawaii, March 14, 2014.



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JEFF A. LAU

DOCKET No. \_\_\_\_\_, CITY AND COUNTY OF HONOLULU VS.  
DEPARTMENT OF HEALTH, STATE OF HAWAII - REQUEST FOR CONTESTED CASE  
HEARING; DECLARATION OF JEFF A. LAU; EXHIBIT "A"; CERTIFICATE OF SERVICE





NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



GARY L. GIL  
ACTING DIRECTOR OF HEALTH

**STATE OF HAWAII**

**DEPARTMENT OF HEALTH**

P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

**01037PKP.14a**

**DATE: January 16, 2014**

**NPDES PERMIT NO. HI 0021296**

**FACT SHEET: APPLICATION FOR RENEWAL OF NATIONAL POLLUTANT  
DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND ZONE  
OF MIXING (ZOM) TO DISCHARGE TO THE PACIFIC OCEAN,  
WATERS OF THE UNITED STATES**

**PERMITTEE: CITY AND COUNTY OF HONOLULU (CCH), DEPARTMENT OF  
ENVIRONMENTAL SERVICES**

**FACILITY: KAILUA REGIONAL WASTEWATER TREATMENT PLANT**

**FACILITY MAILING ADDRESS**

City and County of Honolulu  
Kailua Regional Wastewater Treatment  
Plant  
95 Kaneohe Bay Drive  
Kailua, Hawaii 96734

**PERMITTEE MAILING ADDRESS**

City and County of Honolulu  
1000 Uluohia St., Suite 303  
Kapolei, Hawaii 96707  
Contact: Lori M. K. Kahikina,  
Director – Dept. of  
Environmental Services  
City and County of Honolulu  
Tel. No. (808) 768-3486

**FACILITY STREET ADDRESS**

City and County of Honolulu  
Kailua Regional Wastewater Treatment  
Plant  
95 Kaneohe Bay Drive  
Kailua, Hawaii 96734

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**FACT SHEET**  
**PERMIT NO. HI 0021296**  
**Page 3**

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of the draft permit.

**A. Permit Information**

The following table summarizes administrative information related to the Kailua Regional Wastewater Treatment Plant (hereinafter, facility).

**Table F-1. Facility Information**

<b>Permittee</b>	City and County of Honolulu
<b>Name of Facility</b>	Kailua Regional Wastewater Treatment Plant
<b>Facility Address</b>	95 Kaneohe Bay Drive Kailua, Hawaii 96734
<b>Facility Contact, Title, and Phone</b>	Lori M. K. Kahikina, Director, (808) 768-3486
<b>Authorized Person to Sign and Submit Reports</b>	Lori M. K. Kahikina, Director, (808) 768-3486
<b>Mailing Address</b>	1000 Uluohia St, Suite 308 Kapolei, HI 96707
<b>Billing Address</b>	Same as above
<b>Type of Facility</b>	Wastewater Treatment Plant
<b>Pretreatment Program</b>	Yes
<b>Reclamation Requirements</b>	No
<b>Facility Design Flow</b>	15.25 million gallons per day (MGD)
<b>Receiving Waters</b>	Pacific Ocean: Marine
<b>Receiving Water Type</b>	Marine
<b>Receiving Water Classification</b>	Class A Dry Open Coastal Waters (HAR, Section 11-54-06(b)(2)(B))

1. NPDES Permit No. HI 0021296, including ZOM, became effective on September 2, 2006, and expired on June 30, 2009. The Permittee reapplied for an NPDES permit and ZOM on December 17, 2008. Additional information was submitted on December 3, 4, and 13, 2012, and March 13, 2013. The Hawaii Department of Health (hereinafter DOH) administratively extended the NPDES permit, including the ZOM, on June 30, 2009, pending the reapplication process.
2. The Director of Health (hereinafter Director) proposes to issue a permit to discharge to the waters of the state until January 13, 2019, and has included in the proposed permit those terms and conditions which are necessary to carry out the provisions of the Federal Water Pollution Control Act (P.L. 92-500), Federal Clean Water Act (CWA) (P.L. 95-217) and Chapter 342D, Hawaii Revised Statutes.

## **B. Facility Setting**

### **1. Facility Operation and Location**

The Permittee owns and operates the facility, located in Kailua, Hawaii, on the island of Oahu. The facility has a design capacity of 15.25 MGD and provides primary and secondary treatment of wastewater for approximately 94,000 people in the Ahuimanu, Kaneohe, and Kailua communities. Influent water enters the Facility through two (2) main lines, a force main from Kaneohe Pretreatment Facility and a gravity main from Kailua. Treatment consists of two (2) mechanical bar screens, two grit chambers, four primary clarifiers, two biotowers, two (2) aerated solids contact tanks, and three secondary clarifiers. An ultraviolet light disinfection system is located on-site, but not maintained online for treatment.

Treated effluent is discharged to the Pacific Ocean off of Mokapu Peninsula, through Outfall Serial No. 001 (Mokapu Outfall), at Latitude 21°27'32"N and Longitude 157°42'56"W. The Mokapu Outfall is a joint outfall which is also used by the Marine Corps Base Kaneohe Bay, Hawaii.

Outfall Serial No. 001 is a 48-inch diameter, deep ocean outfall that discharges treated effluent through a diffuser that starts approximately 4,094 feet offshore and 105 feet below the surface of the water. The diffuser is approximately 984 feet long with 81 side ports that range in size from 4 inches to 5.5 inches in diameter and two end ports, one with a 4-inch diameter and one with a 5.5-inch diameter.

Sludge processing consists of two (2) dissolved air floatation thickeners, four (4) anaerobic digesters, and three centrifuges. Solids are disposed of at the Waimanalo Gulch Sanitary Landfill.

Storm water from the facility is regulated under the CCH's municipal separate storm sewer (MS4) permit, NPDES Permit No. HIS000002.

Figure 1 of the draft permit provides a map showing the location of the facility. Figure 2 of the draft permit provides a map of the ZOM, Zone of Initial Dilution (ZID), and receiving water monitoring station locations.

### **2. Receiving Water Classification**

The Pacific Ocean off of Mokapu Peninsula, is designated as "Class A Dry Open Coastal Waters" under Section 11-54-06(b)(2)(B), Hawaii Administrative Rules (HAR). Protected beneficial uses of Class A waters include recreation, aesthetic enjoyment, and the protection and propagation of fish, shellfish, and wildlife.

### 3. Ocean Discharge Criteria

The Director has considered the Ocean Discharge Criteria, established pursuant to Section 403(c) of the CWA for the discharge of pollutants into the territorial sea, the waters of the contiguous zone, or the oceans. The United States Environmental Protection Agency (EPA) has promulgated regulations for Ocean Discharge Criteria in 40 Code of Federal Regulations (CFR) Part 125, Subpart M. The Director has determined that the discharge will not cause unreasonable degradation to the marine environment. Based on current information, the Director proposes to issue a permit.

### 4. Impaired Water Bodies on CWA 303(d) List

CWA section 303(d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources.

On July 24, 2012, the EPA approved the 2008/2010 State of Hawaii Water Quality Monitoring and Assessment Report, which includes the 2008/2010 303(d) List of Impaired Water Bodies in the State of Hawaii.

The Pacific Ocean off of Mokapu Peninsula is not specifically listed in the 2008/2010 303(d) list. Fort Hase Beach, which is the closest listing to Outfall Serial No. 001, is listed on the 2008/2010 303(d) list but is not listed as impaired for any pollutant and is reported as a Category 3 waterbody. At present, no TMDLs have been established for this waterbody.

### 5. Summary of Existing Effluent Limitations

#### a. Existing Effluent Limitations and Monitoring Data

Effluent limitations contained in the existing permit for discharges from Outfall Serial No. 001 and representative monitoring data from January 2008 through June 2012, are presented in the following tables.

**Table F-2. Historic Effluent Limitations and Monitoring Data – Outfall Serial No. 001**

Parameter	Units	Effluent Limitation			Reported Data <sup>1</sup>		
		Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily
Flow	MGD	<sup>2</sup>	<sup>2</sup>	<sup>2</sup>	16	--	16
Biochemical Oxygen Demand (5-Day)	mg/L	30	45	<sup>2</sup>	21	25	--
	kg/day	1,442	2,163	<sup>2</sup>	1,103	1,937	--
	% Removal	As a monthly average, not less than 85 percent removal efficiency from influent stream.			88		
Total	mg/L	30	45	<sup>2</sup>	20	33	--

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Parameter	Units	Effluent Limitation			Reported Data <sup>1</sup>		
		Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily
Suspended Solids	kg/day	1,442	2,163	<sup>2</sup>	1,191	2,554	--
	% Removal	As a monthly average, not less than 85 percent removal efficiency from influent stream.			89		
pH	standard units	Not less than 6.0 nor greater than 9.0			6.4 – 7.4		
Enterococci	CFU/100 mL	2	2	2	--	--	130,000
Total Nitrogen	mg/L	2	2	2	--	--	20
Ammonia Nitrogen	mg/L	2	2	2	--	--	11
Nitrate + Nitrite Nitrogen	mg/L	2	2	2	--	--	15
Total Phosphorus	mg/L	2	2	2	--	--	3.9
Turbidity	N.T.U.	2	2	2	--	--	31
Chronic Toxicity – <i>Ceriodaphnia Dubia</i>	TUc	--	--	186	--	--	93
Chronic Toxicity – <i>Tripneustes Gratilla</i>	TUc	--	--	<sup>3</sup>	--	--	714

<sup>1</sup> Source: Monthly DMR's submitted by the Permittee from January 2008 through June 2012.

<sup>2</sup> Represents highest reported value over the monitoring period specified.

<sup>3</sup> No effluent limitations for this pollutant in the previous permit, only monitoring required.

<sup>3</sup> The chronic toxicity discharge limitation of 186 TUc listed in Part A.1 of the previous permit does not apply to monitoring results for toxicity tests using *Tripneustes gratilla*.

## 6. Compliance Summary

The following table lists effluent limitation violations as identified in the monthly, quarterly, and annual DMRs submitted by the Permittee from January 2008 to June 2012.

**Table F-3. Summary of Compliance History**

Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
01/01/08 - 01/31/08	Weekly Average	TSS	2,552	2,163	kg/day
3/1/12 - 3/31/12	Weekly Average	TSS	2,554	2,163	kg/day

## 7. Planned Changes

There are no planned changes expected during the term of the proposed permit.

**C. Applicable Plans, Policies, and Regulations**

**1. Hawaii Administrative Rules, Chapter 11-54**

On November 12, 1982, the Hawaii Administrative Rules, Title 11, Department of Health, Chapter 54 became effective (hereinafter HAR, Chapter 11-54). HAR, Chapter 11-54 was amended and compiled on October 6, 1984; April 14, 1988; January 18, 1990; October 29, 1992; April 17, 2000; October 2, 2004; June 15, 2009; and the most recent amendment was on October 21, 2012. HAR, Chapter 11-54 establishes beneficial uses and classifications of state waters, the state antidegradation policy, zones of mixing standards, and water quality criteria that are applicable to the Pacific Ocean off of Mokapu Peninsula.

Requirements of the draft permit implement HAR, Chapter 11-54.

**2. Hawaii Administrative Rules, Chapter 11-55**

On November 27, 1981 HAR, Title 11, Department of Health, Chapter 55 became effective (hereinafter HAR, Chapter 11-55). HAR Chapter 11-55 was amended and compiled on October 29, 1992; September 22, 1997; January 6, 2001; November 7, 2002; August 1, 2005; October 22, 2007; June 15, 2009; and the most recent amendment was on October 21, 2012. HAR, Chapter 11-55, establishes standard permit conditions and requirements for NPDES permits issued in Hawaii.

Requirements of the draft permit implement HAR, Chapter 11-55.

**3. State Toxics Control Program**

NPDES Regulations at 40 CFR 122.44(d) require permits to include water quality-based effluent limitations (WQBELs) for pollutants, including toxicity, that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an exceedance of a water quality standard. The *State Toxics Control Program: Derivation of Water Quality-Based Discharge Toxicity Limits for Biomonitoring and Specific Pollutants* (hereinafter, STCP) was finalized in April, 1989, and provides guidance for the development of water quality-based toxicity control in NPDES permits by developing the procedures for translating water quality standards in HAR, Chapter 11-54, into enforceable NPDES permit limitations. The STCP identifies procedures for calculating permit limitations for specific toxic pollutants for the protection of aquatic life and human health.

Guidance contained in the STCP was used to determine effluent limitations in the draft permit.



**D. Rationale for Effluent Limitations and Discharge Specifications**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. NPDES regulations establish two (2) principal bases for effluent limitations. At 40 CFR 122.44(a), permits are required to include applicable technology-based limitations and standards; and at 40 CFR 122.44(d), permits are required to include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one (1) or more of three (3) methods described at 40 CFR 122.44(d) – 1) WQBELs may be established using a calculated water quality criterion derived from a proposed state criterion or an explicit state policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using EPA criteria guidance published under CWA Section 304(a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

**1. Technology-Based Effluent Limitations**

**a. Scope and Authority**

Section 301(b) of the CWA and implementing EPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this permit must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR 133.

Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for publicly owned treatment works (POTWs) [defined in section 304(d)(1)]. CWA Section 301(b)(1)(B) requires that such treatment works must, at a minimum, meet effluent limitations based on secondary treatment as defined by the EPA Administrator.

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Based on this statutory requirement, EPA developed secondary treatment regulations, which are specified in 40 CFR 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of 5-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH.

**b. Applicable Technology-Based Effluent Limitations**

At 40 CFR 133 in the Secondary Treatment Regulations, EPA has established the minimum required level of effluent quality attainable by secondary treatment shown in Table F-4 below. The standards in Table F-4 are applicable to the facility and therefore established in the draft permit as technology-based effluent limitations.

**Table F-4. Applicable Technology-Based Effluent Limitations**

Parameter	Units	30-Day Average	7-Day Average
BOD <sub>5</sub> <sup>1</sup>	mg/L	30	45
TSS <sup>1</sup>	mg/L	30	45
pH	standard units	6.0 – 9.0	

<sup>1</sup> The 30-day average percent removal shall not be less than 85 percent.

**2. Water Quality-Based Effluent Limitations (WQBELs)**

**a. Scope and Authority**

NPDES Regulations at 40 CFR 122.44(d) require permits to include WQBELs for pollutants, including toxicity, that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard (reasonable potential). As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level that will cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard."

The process for determining reasonable potential and calculating WQBELs, when necessary, is intended to protect the receiving waters as specified in HAR, Chapter 11-54. When WQBELs are necessary to protect the receiving waters, the DOH has followed the requirements of HAR, Chapter 11-54, the STCP, and other applicable State and federal guidance policies to determine WQBELs in the draft permit.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44(d)(1)(vi), using (1) EPA criteria guidance under CWA Section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information.

**b. Applicable Water Quality Standards**

The beneficial uses and water quality standards that apply to the receiving waters for this discharge are from HAR, Chapter 11-54.

**(1) HAR, Chapter 11-54.** HAR, Chapter 11-54 specifies numeric aquatic life standards for 72 toxic pollutants and human health standards for 60 toxic pollutants, as well as narrative standards for toxicity. Effluent limitations and provisions in the draft permit are based on available information to implement these standards.

**(2) Water Quality Standards.** The facility discharges to the Pacific Ocean, which is classified as a marine Class A Dry Open Coastal Waters in HAR, Chapter 11-54. As specified in HAR, Chapter 11-54, saltwater standards apply when the dissolved inorganic ion concentration is above 0.5 parts per thousand. As such, a reasonable potential analysis (RPA) was conducted using saltwater standards. Additionally, human health water quality standards were also used in the RPA to protect human health. Where both saltwater standards and human health standards are available for a particular pollutant, the more stringent of the two will be used in the RPA.

40 CFR 122.45(c) requires effluent limitations for metals to be expressed as total recoverable metal. Since water quality standards for metals are expressed in the dissolved form in HAR, Chapter 11-54, factors or translators must be used to convert metal concentrations from dissolved to total recoverable. Default EPA conversion factors were used to convert the applicable dissolved criteria to total recoverable.

**(3) Receiving Water Hardness.** HAR, Chapter 11-54 contains water quality criteria for six (6) metals that vary as a function of hardness in freshwater. A lower hardness results in a lower freshwater water quality standard. The metals with hardness dependent standards include cadmium, copper, lead, nickel, silver, and zinc. Ambient hardness values are used to calculate freshwater water quality standards that are hardness dependent. Since saltwater standards are used for the RPA, the receiving water

hardness was not taken into consideration when determining reasonable potential.

**c. Determining the Need for WQBELs**

NPDES regulations at 40 CFR 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard. Assessing whether a pollutant has reasonable potential is the fundamental step in determining whether or not a WQBEL is required. Using the methods prescribed in EPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991), the effluent data from Outfall Serial No. 001 were analyzed to determine if the discharge demonstrates reasonable potential. The RPA compared the effluent data with numeric and narrative water quality standards in HAR, Chapter 11-54-4. To determine reasonable potential for nutrients contained in HAR, Chapter 11-54-6, a direct comparison of the receiving water concentrations at the edge of the ZOM was compared to the most stringent WQS.

**(1) Reasonable Potential Analysis (RPA).** The RPA for pollutants with WQS specified in HAR, Chapter 11-54-4, based on the TSD, combines knowledge of effluent variability as estimated by a coefficient of variation with the uncertainty due to a limited number of data to project an estimated maximum receiving water concentration as a result of the effluent. The estimated receiving water concentration is calculated as the upper bound of the expected lognormal distribution of effluent concentrations at a high confidence level. The projected maximum receiving water concentration, after consideration of dilution, is then compared to the WQS in HAR, Chapter 11-54, to determine if the pollutant has reasonable potential. The projected maximum receiving water concentration has reasonable potential if it cannot be demonstrated with a high confidence level that the upper bound of the lognormal distribution of effluent concentrations is below the receiving water standards.

Because the most stringent WQS for pollutants specified in HAR, Chapter 11-54-6, are provided as geometric means and exceedances of these WQS are less sensitive to effluent variability, the RPA for pollutants in HAR, Chapter 11-54-6, was conducted by doing a direct comparison of the maximum effluent concentration to the most stringent applicable WQS after consideration of dilution, where applicable.

**(2) Effluent Data.** The RPA was based on effluent monitoring data submitted to the DOH in DMRs from January 2008 through June 2012.

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- (3) Dilution.** The STCP discusses dilution, defined as the reduction in the concentration of a pollutant or discharge which results from mixing with the receiving waters, for submerged and high-rate outfalls. The STCP states that minimum dilution is used for establishing effluent limitations based on chronic criteria and human health standards for non-carcinogens, and average conditions is used for establishing effluent limitations based on human health standards for carcinogens.

The previous permit included a dilution of 185:1 (seawater: effluent) for effluent limitations. The dilution used was based on the results of a 1985 Dilution Study (hereinafter Study) conducted by a contractor (Tetra Tech, Inc.) for an EPA's 301(h) application review, using EPA's mathematical model, PLUME. In the Study, the Permittee determined the critical minimum initial dilution to be 185:1. EPA's *Initial Mixing Characteristic of Municipal Ocean Discharges* indicates that "worst-case" conditions be evaluated using a combination of conservative values for conditions affecting initial dilution. Although no average dilution was provided, using a minimum critical initial dilution of 185:1 for calculating effluent limitations for human health standard for carcinogens is more conservative than an average dilution and will still be protective of water quality. Therefore, because only a critical minimum initial dilution was used in the previous permit and a new dilution study has not been conducted, the DOH has determined the critical short-term initial dilution of 185:1 is still protective of water quality for chronic and fish consumption criteria for non-carcinogens, and fish consumption criteria for carcinogens.

HAR chapter 11-54-9, allows the use of a ZOM to demonstrate compliance with WQS. ZOMs consider initial dilution, dispersion, and reactions from substances which may be considered to be pollutants. However, due to other potential sources of pollutants into the receiving water, such as storm water runoff or unidentified discharges, it is often problematic to determine the cause of WQS exceedances in the receiving water at the edge of a ZOM. It is more practical to determine the available dilution provided in the ZOM and apply that dilution to the WQS to calculate an effluent limitation that can be applied end-of-pipe. However, an available dilution at the edge of the ZOM is not currently known for this discharge. Thus, for Section 11-54-6(b)(3) parameters, reasonable potential to contribute to an exceedance of WQS is most reasonably assessed by comparing monitoring data at the edge of the ZOM to the applicable WQS. If an annual geometric mean at the edge of a ZOM exceeds the applicable WQS, the Permittee is determined to have reasonable potential for the pollutant. If an exceedance of WQS is not observed at the edge of the ZOM, it is assumed that sufficient dilution and assimilative capacity exists to meet WQS at the edge of the ZOM.

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Where reasonable potential has been determined for Section 11-54-6(b)(3) pollutants, limitations must be established that are protective of water quality. Because the dilution at the edge of the ZOM is not known, where assimilative capacity exists this permit establishes limitations for Section 11-54-6(b)(3) pollutants as performance-based effluent limitations and receiving water limitations and requires the Permittee to conduct a dilution analysis at the edge of the ZOM so that end-of-pipe effluent limitations may be established during future permitting efforts. Where assimilative capacity does not exist, it is not appropriate to grant a ZOM and/or dilution, and an end-of-pipe criteria-based effluent limitation must be established that is protective of WQS.

Assimilative capacity for pollutants with reasonable potential is evaluated for Section 11-54-6(b)(3) pollutants by aggregating all ZOM control station data annually and comparing the annual geometric means to the applicable WQS. If an annual geometric mean exceeds 90 percent of the WQS, assimilative capacity is determined to be insufficient and dilution may not be granted.

- (4) Summary of RPA Results.** The maximum effluent concentrations from the DMRs over the current permit term, maximum projected receiving water concentration after dilution calculated using methods from the TSD, the applicable HAR, Section 11-54-4(b)(3) and 11-54-6(b)(3) water quality standard, and result of the RPA for pollutants discharged from Outfall Serial No. 001 are presented in Table F-5, below. Only pollutants detected in the discharge are presented in Table F-5. All other pollutants were not detected and therefore, no reasonable potential exists.

**Table F-5. Summary of RPA Results**

Parameter	Units	Maximum Effluent Concentration	Maximum Projected Concentration	Applicable Water Quality Standard	RPA Results
Antimony, Total Recoverable	µg/L	1.25	0.032	15,000	No
Arsenic, Total Recoverable	µg/L	1.35	0.034	36	No
Beryllium, Total Recoverable	µg/L	0.066	0.0017	0.038	No
Chromium, Total Recoverable	µg/L	4.1	0.10	50 <sup>1</sup>	No
Copper, Total Recoverable	µg/L	34	0.86	3.5	No
Cyanide, Total Recoverable	µg/L	1.8	0.046	1.0	No
Lead, Total Recoverable	µg/L	0.49	0.012	5.9	No
Mercury, Total Recoverable	µg/L	0.05	0.0013	0.025	No
Nickel, Total Recoverable	µg/L	6.7	0.17	8.4	No
Selenium, Total Recoverable	µg/L	1.5	0.038	71	No

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Parameter	Units	Maximum Effluent Concentration	Maximum Projected Concentration	Applicable Water Quality Standard	RPA Results
Silver, Total Recoverable	µg/L	0.18	0.0046	2.7	No
Thallium, Total Recoverable	µg/L	0.05	0.0013	16	No
Zinc, Total Recoverable	µg/L	27	0.69	91	No
Chlordane	µg/L	0.042	0.0011	0.00016	Yes
Dieldrin	µg/L	0.03	0.00076	0.000025	Yes
1,4-Dichlorobenzene	µg/L	0.3	0.0076	660	No
Total Nitrogen	µg/L	93.5 <sup>2</sup>	NA	110	No
Ammonia Nitrogen	µg/L	3.4 <sup>2</sup>	NA	2.0 <sup>3</sup>	Yes
Nitrate + Nitrite Nitrogen	µg/L	3.7 <sup>2</sup>	NA	3.5	Yes
Total Phosphorus	µg/L	8.7 <sup>2</sup>	NA	16	No

<sup>1</sup> Water quality standard is expressed as Chromium VI.

<sup>2</sup> Maximum annual geometric mean at the edge of the ZOM.

**(5) Reasonable Potential Determination.**

**(a) Constituents with limited data.** In some cases, reasonable potential cannot be determined because effluent data are limited. The draft permit requires the Permittee to continue to monitor for these constituents in the effluent using analytical methods that provide the lowest available detection limitations. When additional data become available, further RPAs will be conducted to determine whether to add numeric effluent limitations to this draft permit or to continue monitoring.

Data for the following parameters was not available:

- PCB
- Dioxin
- 1,2,4,5-Trichlorobenzene
- Aluminum
- Chlorine
- Chlorpyrifos
- Cyclohexane-technical
- Demeton
- Dichloro ethenol (2,4)
- Isopropylchloroether
- Methyl(bis)chloroether
- Nitrosamines
- Nitroso-dibutylamine-N
- Nitroso-diethylamine-N
- Pentachloroethanes
- Pyrrolidine-N
- Tetrachloroethanes

**(b) Pollutants with No Reasonable Potential.** WQBELs are not included in this draft permit for constituents listed in HAR, Chapter 11-54-4(3) and 11-54-6(b)(3), that do not demonstrate reasonable potential; however, monitoring for such pollutants is still required in order to collect data for future RPAs. Pollutants with no reasonable potential consist of those identified in Table F-5 or any pollutant not discussed in Parts D.2.c.(5).(a) or D.2.c.(5).(c) of this Fact Sheet.

**(c) Pollutants with Reasonable Potential.** The RPA indicated that ammonia, chlordane, dieldrin, and nitrate plus nitrite have reasonable potential to cause or contribute to an excursion above state water quality standards. Further, due to the nature of the discharge (secondary treated wastewater), pathogens such as enterococcus are present in the effluent. Concentrations up to 130,000 CFU/100 mL have been observed in the effluent, which exceed the applicable single sample maximum criteria of 501 CFU/100 mL and the geometric mean criteria of 35 CFU/100 mL with dilution (93,186 and 6,510 CFU/100 mL). As such, reasonable potential for enterococcus has also been determined.

Thus, WQBELs have been established in this draft permit at Outfall Serial No. 001 for ammonia nitrogen, chlordane, dieldrin, enterococcus, and nitrate + nitrite nitrogen.

The WQBELs were calculated based on water quality standards contained in HAR, Chapter 11-54, and procedures contained in both STCP and HAR, Chapter 11-54, as discussed in Part D.2.d, below.

**d. WQBEL Calculations**

Specific pollutant limits may be calculated for both the protection of aquatic life and human health.

**(1) WQBELs based on Aquatic Life Standards.** The STCP categorizes a discharge from a facility into one of four categories: (1) marine discharges through submerged outfalls; (2) discharges without submerged outfalls; (3) discharges to streams; or (4) high-rate discharges. Once a discharge has been categorized, effluent limitations for pollutants with reasonable potential can be calculated, as described below.

- (a)** For marine discharges through submerged outfalls, the daily maximum effluent limitation shall be the product of the chronic water quality standard and the minimum dilution factor;
- (b)** For discharges without submerged outfalls, the daily maximum effluent limitation shall be the acute toxicity standard. More stringent limits based on the chronic standards may be developed using Best Professional Judgment (BPJ);
- (c)** For discharges to streams, the effluent limitation shall be the most stringent of the acute standard and the product of the chronic standard and dilution; and



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(d) For high rate outfalls, the maximum limit for a particular pollutant is equal to the product of the acute standard and the acute dilution factor determined according to Section II.B.4 of the STCP. More stringent limits based on chronic standards may be developed using BPJ.

**(2) WQBELs based on Human Health Standards.** The STCP specifies that the fish consumption standards are based upon the bioaccumulation of toxics in aquatic organisms followed by consumption by humans. Limits based on the fish consumption standards should be applied as 30-day averages for non-carcinogens and annual averages for carcinogens.

The discharge from this facility is considered a marine discharge through a submerged outfall. Therefore, for pollutants with reasonable potential, the draft permit establishes, on a pollutant by pollutant basis, daily maximum effluent limitations based on saltwater chronic aquatic life standard after considering dilution and average monthly effluent limitations for non-carcinogens or annual average effluent limitations for carcinogens based on the human health standard after considering dilution. WQBELs established in the draft permit are discussed in detail below.

**(3) Calculation of Pollutant-Specific WQBELs**

As discussed in Part D.2.c.(3) of this Fact Sheet, a dilution of 185:1 has been established.

The following equations were used to calculate reasonable potential for the pollutants below.

$$\text{Projected Maximum RWC} = \text{MEC} \times 99\%_{\text{ratio}} \times \text{Dm}$$

Where:

RWC	=	Receiving water concentration
MEC	=	Maximum effluent concentration reported
99% <sub>ratio</sub>	=	The 99% ratio from Table 3-1 in the TSD or calculated using methods in Section 3.3.2 of the TSD.
Dm	=	Percent Dilution (i.e., 185:1, or 0.54%)

If the projected maximum receiving water concentration is greater than the applicable water quality standard from HAR, Chapter 11-54, the reasonable potential exists for the pollutant and effluent limitations are established. Pollutants with reasonable potential are discussed below in detail.

**(a) Chlordane**

- i. **Chlordane Water Quality Standards.** The most stringent applicable water quality standard for chlordane is the human health standard of 0.00016 µg/L, as specified in HAR, Chapter 11-54.
- ii. **RPA Results.** The Permittee reported four data points for chlordane ( $n = 4$ ), resulting in a CV = 0.6. Based on a CV of 0.6 and four samples, the 99% multiplier calculated using methods described in section 3.3.2 of the TSD was 4.7. As discussed in Part D.2.c.(3), the facility is granted a dilution of 185:1. Therefore,  $D_m = 0.54\%$ .

The maximum effluent concentration for chlordane was 0.042 µg/L.

$$\begin{aligned}\text{Projected Maximum RWC} &= \text{MEC} \times 99\%_{\text{ratio}} \times D_m \\ &= (0.042 \text{ µg/L}) \times 4.7 \times 0.0054 \\ &= 0.0011 \text{ µg/L}\end{aligned}$$

$$\text{HAR 11-54 Water Quality Standard} = 0.00016 \text{ µg/L}$$

The projected maximum receiving water concentration (0.0011 µg/L) exceeds the most stringent applicable water quality standard for this pollutant (0.00016 µg/L), demonstrating reasonable potential. Therefore, the draft permit establishes effluent limitations for chlordane.

- iii. **Chlordane WQBELs.** WQBELs for chlordane are calculated using STCP procedures and are based on the chronic aquatic life water quality standard and human health standard. The draft permit establishes a daily maximum effluent limitation for chlordane of 0.74 µg/L based on the chronic aquatic life water quality standard and a dilution of 185:1, and an annual average effluent limitation of 0.030 µg/L based on the human health standard for carcinogens and a dilution of 185:1.
- iv. **Feasibility.** The maximum effluent concentration reported for chlordane during the term of the previous permit was 0.042 µg/L. Since the maximum effluent concentration is less than the proposed maximum daily effluent limitation of 0.74 µg/L, the DOH has determined that the facility will be able to comply with proposed maximum daily chlordane effluent limitations.

The maximum annual average concentration reported for chlordane during the term of the previous permit was 0.041 µg/L. Since the

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maximum annual average effluent concentration is greater than the proposed annual average effluent limitation of 0.030 µg/L, the DOH has determined that the facility may not be able to immediately comply with proposed annual average effluent limitation.

- v. **Anti-backsliding.** Anti-backsliding regulations are satisfied because the effluent limitations were not established in the previous permit for chlorodane, thus these limitations are at least as stringent as the previous permit.

**(b) Dieldrin**

- i. **Dieldrin Water Quality Standards.** The most stringent applicable water quality standard for dieldrin is the human health standard of 0.000025 µg/L, as specified in HAR, Chapter 11-54.
- ii. **RPA Results.** The Permittee reported four data points for dieldrin ( $n = 4$ ), resulting in a  $CV = 0.6$ . Based on a  $CV$  of 0.6 and four (4) samples, the 99% multiplier calculated using methods described in section 3.3.2 of the TSD was 4.7. As discussed in Part D.2.c.(3), the facility is granted a dilution of 185:1. Therefore,  $Dm = 0.54\%$ .

The maximum effluent concentration for dieldrin was 0.03 µg/L.

$$\begin{aligned}\text{Projected Maximum RWC} &= \text{MEC} \times 99\%_{\text{ratio}} \times Dm \\ &= (0.03 \text{ µg/L}) \times 4.7 \times 0.0054 \\ &= 0.00076 \text{ µg/L}\end{aligned}$$

$$\text{HAR 11-54 Water Quality Standard} = 0.000025 \text{ µg/L}$$

The projected maximum receiving water concentration (0.00076 µg/L) exceeds the most stringent applicable water quality standard for this pollutant (0.000025 µg/L), demonstrating reasonable potential. Therefore, the draft permit establishes effluent limitations for dieldrin.

- iii. **Dieldrin WQBELs.** WQBELs for dieldrin were calculated using STCP procedures and are based on the chronic aquatic life water quality standard and human health standard. The draft permit establishes a daily maximum effluent limitation for dieldrin of 0.35 µg/L based on the chronic aquatic life water quality standard and a dilution of 185:1, and an annual average effluent limitation of 0.0047 µg/L based on the human health standard for carcinogens and a dilution of 185:1.

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- iv. Feasibility.** The maximum effluent concentration reported for dieldrin during the term of the previous permit was 0.03 µg/L. Since the maximum effluent concentration is less than the proposed maximum daily effluent limitation of 0.35 µg/L, the DOH has determined that the facility will be able to comply with proposed maximum daily dieldrin effluent limitations.

The maximum annual average concentration reported for dieldrin during the term of the previous permit was 0.03 µg/L. Since the maximum annual average effluent concentration is greater than the proposed annual average effluent limitation of 0.0047 µg/L, the DOH has determined that the facility may not be able to immediately comply with proposed annual average effluent limitation.

- v. Anti-backsliding.** Anti-backsliding regulations are satisfied because the effluent limitations were not established in the previous permit for dieldrin, thus these limitations are at least as stringent as the previous permit.

**e. Ammonia Nitrogen**

HAR Chapter 11-54-6 establishes the following WQS for ammonia nitrogen:

Parameter	Geometric Mean	Value not to exceed more than 10% of the time	Value not to exceed more than 2% of the time
Ammonia Nitrogen (µg/L)	2.00	5.00	9.00

As demonstrated in Table F-5 of this Fact Sheet, reasonable potential to exceed applicable WQS for ammonia nitrogen has been determined.

ZOM data from March 2008 through October 2012 indicate that assimilative capacity is available for ammonia nitrogen in the receiving water. Assimilative capacity was evaluated as specified below:

- (1) Review EPA's 303(d) list to determine if the water body is impaired for ammonia nitrogen.

The water body is not listed in EPA's 303(d) list for ammonia nitrogen.

- (2) Identify nearby control stations to determine the "decision unit" for analysis.

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Control Stations MB1 and MB6 are the available reference station and have been identified as the applicable control stations for evaluating assimilative capacity and constitute the decision unit for the analysis.

- (3) Data from all stations (including surface, middle, and bottom) are aggregated together to represent the decision unit and generate annual geomeans. To ensure adequate assimilative capacity, the highest annual geomean for the decision unit shall not exceed 90 percent of the applicable WQS.

The resulting geomeans were:

Year	Result (µg/L)
2008	1.7
2009	2.1
2010	1.2
2011	1.3
2012	1.2

The highest annual geomean for the decision unit of 2.1 µg/L is greater than 90 percent of the applicable WQS (1.8 µg/L). Based on this objective, assimilative capacity is not present in the receiving water.

- (4) Consider other available information if available, including studies, reports, and receiving water data trends.

The annual geomeans for the last three years of data show a trend of lowered concentrations of ammonia nitrogen in the receiving water. On average, the geomeans for the last three (3) years represent a decrease of approximately 41 percent from the highest annual geomean and is below 90 percent of the applicable WQS. Therefore assimilative capacity has been granted for ammonia nitrogen based on receiving water data trends.

The Permittee shall be required to conduct a ZOM dilution study to establish available dilution at the edge of the ZOM and verify that assimilative capacity within the receiving water exists for ammonia nitrogen.

Because the available dilution at the edge of the ZOM is not currently known, end-of-pipe water quality-based effluent limitations cannot be determined. However, WQS exceedances at the edge of the ZOM occurred over the previous permit term, indicating that current effluent concentrations have the potential to exceed the available dilution for ammonia nitrogen. In the absence of a known dilution within the ZOM, and in addition to applicable receiving water limitations and requirements

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to evaluate available dilution at the edge of the ZOM, this permit establishes performance-based effluent limitations for ammonia nitrogen to minimize the potential for WQS exceedances within the receiving water.

Effluent concentrations for ammonia nitrogen from January 2008 through December 2012 indicate effluent concentrations as high as 14,700 µg/L. A performance-based single sample effluent limitation of 14,700 µg/L has been established based on the maximum effluent concentration observed over the previous permit term.

Anti-backsliding regulations are satisfied because effluent limitations were not established in the previous permit for ammonia nitrogen, thus these limitations are at least as stringent as the previous permit.

**f. Nitrate + Nitrite Nitrogen**

HAR Chapter 11-54-6, establishes the following WQS for nitrate plus nitrite nitrogen:

Parameter	Geometric Mean	Value not to exceed more than 10% of the time	Value not to exceed more than 2% of the time
Nitrate +Nitrite (µg/L)	3.5	10.00	20.00

As demonstrated in Table F-5 of this Fact Sheet, reasonable potential to exceed applicable WQS for nitrate + nitrite has been determined.

ZOM data from March 2008 through October 2012 indicate that assimilative capacity is available for nitrate + nitrite in the receiving water. Assimilative capacity was determined as specified below:

- (1) Review EPA's 303(d) list to determine if the water body is impaired for nitrate + nitrite.

The water body is not listed in EPA's 303(d) list for nitrate + nitrite.

- (2) Identify nearby control stations to determine the "decision unit" for analysis.

Control Stations MB1 and MB6 are the available reference station and have been identified as the applicable control stations for evaluating assimilative capacity and constitutes the decision unit for the analysis.

- (3) Data from all stations (including surface, middle, and bottom) are aggregated together to represent the decision unit and generate annual

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geomeans. To ensure adequate assimilative capacity, the highest annual geomean for the decision unit shall not exceed 90 percent of the applicable WQS.

The resulting geomeans were:

Year	Result (µg/L)
2008	1.14
2009	0.89
2010	0.73
2011	0.64
2012	0.74

The highest annual geomean for the decision unit of 1.14 µg/L is less than 90 percent of the applicable WQS (3.15 µg/L). Assimilative capacity appears to be present in the receiving water.

- (4) Consider other available information if available, including studies, reports, and receiving water data trends.

Information is not currently known that would result in the removal of assimilative capacity for nitrate + nitrite. An apparent trend of increasing concentration within the receiving water at the reference station does not appear present. The Permittee shall be required to conduct a ZOM dilution study to establish available dilution at the edge of the ZOM and verify that assimilative capacity within the receiving water exists for nitrate + nitrite.

Because the available dilution at the edge of the ZOM is not currently known, end-of-pipe water quality-based effluent limitations cannot be determined. However, WQS exceedances at the edge of the ZOM occurred over the previous permit term, indicating that current effluent concentrations have the potential to exceed the available dilution for nitrate+nitrite. In the absence of a known dilution within the ZOM, and in addition to applicable receiving water limitations and requirements to evaluate available dilution at the edge of the ZOM, this permit establishes performance-based effluent limitations for nitrate+nitrite to minimize the potential for WQS exceedances within the receiving water.

Effluent concentrations for nitrate + nitrite from January 2008 through December 2012 indicate effluent concentrations as high as 15,000 µg/L. A performance-based single sample effluent limitation of 15,000 µg/L has been established based on the maximum effluent concentration observed over the previous permit term.

Anti-backsliding regulations are satisfied because the effluent limitations were not established in the previous permit for nitrate+nitrite, thus these limitations are at least as stringent as the previous permit.

**h. pH**

The Permittee was previously granted a ZOM for pH. The pH value at the edge observed at the edge of the ZOM ranged between 7.8 and 8.3 s.u. and is within the water quality standards for open coastal waters in HAR, Section 11-54-6(b)(3). Thus, the technology-based effluent limitations of between 6.0 to 9.0 at all times appears to be protective of water quality outside the ZOM and has been carried over.

**i. Oil and Grease**

HAR, Section 11-54-4(a)(2), establishes a narrative water quality objective that all waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including oil and grease. Oil and grease is a pollutant commonly found in the effluent from wastewater treatment plants serving municipalities. Therefore monitoring for oil and grease has been established in this permit to ensure compliance with this narrative water quality objective.

Anti-backsliding regulations are satisfied because the effluent limitations were not established in the previous permit for oil and grease, thus these limitations are at least as stringent as the previous permit.

**j. Enterococcus**

The discharge consists of treated sewage which may contain pathogens at elevated concentrations if not properly disinfected, sufficient to impact human health or the beneficial uses of the receiving water. To ensure the protection of human health, this permit establishes effluent limitations for enterococcus.

HAR, Section 11-54-8(b), establishes water quality objectives for marine recreational waters within 300 meters (1,000 feet) of shore. As discussed in Part E.3.a of this Fact Sheet, the draft permit establishes receiving water limitations for marine recreational waters within 300 meters (1,000 feet) from shore based on State regulations contained in HAR, Chapter 11-54. Federal regulations at 40 CFR 131.41(c)(2) establish water quality standards for bacteria in marine waters beyond 300 meters from shore, based on CWA Section 304(a). 40 CFR 122.44(d)(1)(vi)(B) states that where a State has not established a water quality criterion for a specific pollutant with reasonable potential, the permitting authority must establish effluent limitations on a case-by-case basis, using EPA's water quality criteria



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published under Section 304(a) of the CWA. Since Outfall Serial No. 001 is beyond 300 meters (1,000 feet) off shore, there is no applicable State water quality objective for the discharge, and EPA's criteria for enterococcus specified in 40 CFR 131.41 is applicable.

The applicable geometric mean is 35 CFU/100 mL. The applicable single sample maximum criteria for marine waters defined as infrequent use coastal recreation waters is 501 CFU/100 mL.

Receiving water data from March 2008 through October 2012 indicate that there were no exceedances of enterococcus at the edge of the mixing zone. Additionally, monitoring data from control stations indicate that assimilative capacity does exist for enterococcus within the receiving water, thus dilution should be granted for enterococcus. Consistent with 3.3 of EPA's TSD, the regulatory authority should consider additional information discussed under Section 3.2 (i.e., type of industry, type of POTW, type of receiving water and designated uses, etc.) when evaluating reasonable potential. Reasonable potential can be determined without effluent or receiving water exceedances of applicable water quality criteria. Because the facility is a POTW, and pathogens are characteristic of treated municipal wastewater, and the beneficial uses of the receiving water include recreation where human contact may occur, reasonable potential for enterococcus has been determined.

The draft permit establishes the following end-of-pipe effluent limitations and monitoring requirements for enterococcus at Outfall Serial No. 001 based on 40 CFR 131.41(c)(2) and dilutions discussed below. Although the human contact with the receiving water may be infrequent, human contact within the zone of mixing may occur, thus for the protection of human health due to the potential for acute illness from pathogens, the minimum initial dilution of 185:1 was used to calculate applicable WQBELs for enterococcus.

- (1) Due to the potential for human contact within the receiving water, a geometric mean of 6,510 CFU per 100 milliliters, based on the geometric mean of 35 CFU per 100 milliliters and a dilution of 185:1. Based on effluent data from January 2008 through June 2012, the minimum reported effluent enterococcus concentration was 6,600 CFU per 100 milliliters, indicating that the Permittee has the reasonable potential to cause or contribute to an exceedance of the water quality criteria for enterococcus. Thus, the monthly geometric mean of 6,510 CFU per 100 milliliters has been applied as an effluent limitation in the proposed permit.
- (2) Considering the applicable single sample maximum for coastal recreation waters of 501 CFU per 100 milliliters and a dilution of 185:1, the resulting WQBEL is 93,186 CFU per 100 milliliters. Based on effluent data from

January 2008 through June 2012, the maximum reported effluent enterococcus concentration was 130,000 CFU per 100 milliliters, indicating that the Permittee has the reasonable potential to cause or contribute to an exceedance of the water quality criteria for enterococcus. Thus, the single sample maximum of 93,186 CFU per 100 milliliters has been applied as an effluent limitation in the proposed permit.

**k. Whole Effluent Toxicity (WET)**

WET limitations protect receiving water quality from the aggregated toxic effect of a mixture of pollutants in an effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent or receiving water. The WET approach allows for protection of the narrative criterion specified in HAR, Chapter 11-54-4(b)(2), while implementing Hawaii's numeric WQS for toxicity. There are two (2) types of WET tests – acute and chronic. An acute toxicity test is conducted over a short period of time and measures mortality. A chronic toxicity test is generally conducted over a longer period of time and may measure mortality, reproduction, or growth.

The previous permit established a chronic WET effluent limitation at Outfall Serial No. 001 for *Ceriodaphnia dubia* and additional monitoring for *Tripneustes gratilla*.

Whole effluent toxicity data for the time period between January 2008 and June 2012 using the test species *C. dubia* did not result in an exceedance of the chronic toxicity effluent limitation; however, monitoring results for *T. gratilla* indicates that the Permittee has reasonable potential to exceed the effluent limitation for chronic toxicity of 186 TU<sub>c</sub> established in the previous Permit for Outfall Serial No. 001, with effluent results as high as >714.3 TU<sub>c</sub>.

A chronic WET effluent limitation has been established at Outfall Serial No. 001. For improved WET analysis, DOH has begun implementing EPA's Test of Significant Toxicity Method (TST) for WET effluent limitations within the State. As such, the chronic WET effluent limitation at Outfall Serial No. 001 has been revised to be consistent with the TST method using *T. gratilla*. *T. gratilla* is a native species to Hawaii, and as observed in historic effluent data, *T. gratilla* is more sensitive to potential toxic pollutants within the Permittee's effluent than *C. dubia*. The use of *T. gratilla* is representative of toxic impacts on local species. Test procedures for measuring toxicity to marine organisms of the Pacific Ocean, including *T. gratilla*, are not provided at 40 CFR 136. Consistent with the Preamble to EPA's 2002 Final WET Rule, permit writers may include (under 40 CFR 122.41(j)(4) and 122.44(i)(iv)) requirements for the use of test procedures that are not approved at 40 CFR Part 136 on a permit-by-permit basis. The use of alternative methods for West coast facilities in Hawaii is

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further supported under 40 CFR 122.21(j)(5)(viii), which states, "West coast facilities in..., Hawaii,... are exempted from 40 CFR [P]art 136 chronic methods and must use alternative guidance as directed by the permitting authority."

EPA has issued applicable guidance for conducting chronic toxicity tests using *T. gratilla* in Hawaiian Collector Urchin, *Tripneustes gratilla* (Hawa'e) Fertilization Test Method 3/16/98 (Adapted by Amy Wagner, EPA Region 9 Laboratory, Richmond, CA from a method developed by George Morrison, EPA, ORD Narragansett, RI and Diane Nacci, Science Applications International Corporation, ORD Narragansett, RI) (EPA/600/R-12/022).

As previously discussed, reasonable potential for WET has been determined for Outfall Serial No. 001 and an effluent limitation must be established in accordance with 40 CFR 122.44(d)(1). Further, a WET effluent limitation and monitoring are necessary to ensure compliance with applicable WQS in HAR, Chapter 11-54-4(b)(2).

The proposed WET limitation and monitoring requirements are incorporated into the draft permit in accordance with the EPA national policy on water quality-based permit limitations for toxic pollutants issued on March 9, 1984 (49 FR 9016), HAR, Section 11-54-4(b)(2)(B), and EPA's National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010).

Consistent with HAR, Chapter 11-54-4(b)(2)(B), this Permit establishes a chronic toxicity effluent limitation based on the TST hypothesis testing approach. The TST approach was designed to statistically compare a test species response to the in-stream waste concentration (IWC) and a control.

For continuous discharges through submerged outfalls, HAR 11-54-4(b)(4)(A) requires the no observed effect concentration (NOEC), expressed as a percent of effluent concentration, to not be less than 100 divided by the minimum dilution. Thus, the minimum dilution of 185:1 is most appropriate for establishing a critical dilution factor. The following equation is used to calculate the IWC where dilution is granted (Outfall Serial No. 001):

$$\begin{aligned} \text{IWC} &= 100/\text{critical dilution factor} \\ &= 100/185 \\ &= 0.54\% \end{aligned}$$

For any one chronic toxicity test, the chronic WET permit limit that must be met is rejection of the null hypothesis ( $H_0$ ):

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IWC (0.54 percent effluent) mean response  $\leq 0.75 \times$  Control mean response.

A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail"

The acute and chronic biological effect levels (effect levels of 20% and 25%, respectively, or b values of 0.80 and 0.75, respectively) incorporated into the TST define EPA's unacceptable risks to aquatic organisms and substantially decrease the uncertainties associated with the results obtained from EPA's traditionally used statistical endpoints for WET. Furthermore, the TST reduces the need for multiple test concentrations which, in turn, reduces laboratory costs for dischargers while improving data interpretation. A significant improvement offered by the TST approach over traditional hypothesis testing is the inclusion of an acceptable false negative rate. While calculating a range of percent minimum significant differences (PMSDs) provides an indirect measure of power for the traditional hypothesis testing approach, setting appropriate levels for  $\beta$  and  $\alpha$  using the TST approach establishes explicit test power and provides motivation to decrease within test variability which significantly reduces the risk of under reporting toxic events (USEPA 2010<sup>1</sup>).

Taken together, these refinements simplify toxicity analyses, provide dischargers with the positive incentive to generate high quality data, and afford effective protection to aquatic life.

A WET effluent limitation based on the TST hypothesis testing approach is protective of the WQS for toxicity contained in HAR, Section 11-54-4(b)(4)(B) and is not considered to be less stringent. Use of the TST approach is consistent with the requirements of State and federal anti-backsliding regulations.

#### **I. Summary of Final Effluent Limitations**

In addition to the effluent limitations specified above, HAR, Section 11-55-20 requires that daily quantitative limitations by weight be established where possible. Thus, in addition to concentration based-effluent limitations, mass-based effluent limitations (in pounds per day) have been established where applicable based on the following formula:

$$\text{lbs/day} = 8.34 * \text{concentration (mg/L)} * \text{flow (MGD)}$$

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<sup>1</sup> U.S. Environmental Protection Agency. 2002a. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (5th Edition). EPA 821-R-02-012. Washington, DC: Office of Water.

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40 CFR 122.45(b)(1) requires that mass-based effluent limitations for POTWs be based on design flow. The previous permit established mass based effluent limitations on a flow of 12.7 MGD. Annual average effluent flows for the two (2) years prior to the development of this permit was 11.8 MGD and 12.2 MGD. Based on recent annual average flows reported by the Permittee, 12.7 MGD appears to remain representative of current operations. Further, establishing mass-based effluent limitations on flows greater than 12.7 MGD for parameters previously limited with mass-based limitations would require an anti-degradation analysis and constitute backsliding. An anti-degradation analysis was not provided by the Discharger for an increase in flow. This permit continues to include mass-based effluent limitations using a flow of 12.7 MGD. However, since previous permits did not include discharge limitations for chlordane and dieldrin, the current design flow of 15.25 MGD was used for the calculation of the mass-based effluent limitations for these parameters.

Mass-based effluent limitations in the previous permit were established in kg/day. However, to be consistent with other permits in the State, the draft permit establishes mass-based effluent limitations in lbs/day. Limitations expressed as kg/day are duplicative and therefore have not been established. The limitations established in this permit meet applicable anti-backsliding and antidegradation requirements, as discussed in Part D.2.m and D.2.n of this Fact Sheet.

The following table lists final effluent limitations contained in the draft permit and compares them to effluent limitations contained in the previous permit.

**Table F-6. Summary of Final Effluent Limitations – BOD and TSS**

Parameter	Units	Effluent Limitations Contained in the Previous Permit			Proposed Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	30	45	--	30	45	--
	lbs/day <sup>1</sup>	1,442 <sup>2</sup>	2,163 <sup>2</sup>	--	3,178	4,766	--
	% Removal	As a monthly average, not less than 85 percent removal efficiency from the influent stream.			The average monthly percent removal shall not be less than 85 percent.		
Total Suspended Solids (TSS)	mg/L	30	45	--	30	45	--
	lbs/day <sup>1</sup>	1,442 <sup>2</sup>	2,163 <sup>2</sup>	--	3,178	4,766	--
	% Removal	As a monthly average, not less than 85 percent removal efficiency from the influent stream.			The average monthly percent removal shall not be less than 85 percent.		

<sup>1</sup> Based on a design flow of 12.7 MGD.

<sup>2</sup> Effluent limitation applied as kg/day.

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**Table F-7. Summary of Final Effluent Limitations – All Other Pollutants**

Parameter	Units	Effluent Limitations Contained in the Previous Permit			Proposed Effluent Limitations		
		Average Annual	Average Monthly	Maximum Daily	Average Annual	Average Monthly	Maximum Daily
Enterococci	CFU/100 ml	--	--	N/L	--	6,510 <sup>1</sup>	93,186 <sup>2</sup>
pH	s.u.	Not less than 6.0 and not greater than 9.0			Not less than 6.0 and not greater than 9.0		
Chronic Toxicity – <i>Ceriodaphnia Dubia</i>	TUc	--	--	186	--	--	--
Chronic Toxicity – <i>Tripneustes Gratilla</i>	TUc	--	--	<sup>3</sup>	--	--	Pass <sup>4</sup>
Chlordane	µg/L	--	--	--	0.030	--	0.74
	lbs/day	--	--	--	0.0038	--	0.094
Dieldrin	µg/L	--	--	--	0.0047	--	0.35
	lbs/day	--	--	--	0.00060	--	0.045
Ammonia Nitrogen	µg/L	--	--	--	--	--	14,700 <sup>5</sup>
	lbs/day	--	--	--	--	--	1,870 <sup>5</sup>
Nitrate plus Nitrite	µg/L	--	--	--	--	--	15,000 <sup>5</sup>
	lbs/day	--	--	--	--	--	1,908 <sup>5</sup>

<sup>1</sup> Effluent limitation expressed as a monthly geometric mean.

<sup>2</sup> Effluent limitation expressed as a single sample maximum.

<sup>3</sup> The chronic toxicity discharge limitation of 186 TUc listed in Part A.1 of the previous permit does not apply to monitoring results for toxicity tests using *Tripneustes gratilla*.

<sup>4</sup> "Pass", as described in section D.2.h of this Fact Sheet.

<sup>5</sup> Applied as a single sample maximum.

**m. Satisfaction of Anti-Backsliding Requirements**

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA Sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

Federal anti-backsliding regulations at 40 CFR 122.44(l)(i) allows for effluent limitations in a reissued permit to be less stringent if information is available which was not available at the time of the permit issuance and which have justified the application of a less stringent effluent limitation. The draft permit retains all effluent limitations from the previous permit. Therefore, effluent limitations and requirements for all pollutants are at least as stringent as those in the previous permit and are consistent with State and federal anti-backsliding regulations.

**n. Satisfaction of Antidegradation Policy Requirements**

The DOH established the State antidegradation policy in HAR, Section 11-54-1.1, which incorporates the federal antidegradation policy at

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40 CFR 131.12. HAR, Section 11-54-1.1 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings demonstrating that allowing lower water quality is necessary to accommodate economic or social development in the area in which the waters are located. All effluent limitations and requirements of the draft permit are retained from the previous permit. Therefore, the permitted discharge is consistent with antidegradation provisions of 40 CFR 131.12 and HAR, Section 11-54-1.1. The impact on existing water quality will be insignificant and the level of water quality necessary to protect the existing uses will be maintained and protected.

**E. Rationale for Receiving Water and Zone of Mixing Requirements**

**1. Summary of ZOM Water Quality Standards and Monitoring Data**

The following are effluent quality monitoring results for HAR, Chapter 11-54, specific water quality criteria parameters that were provided in the ZOM Application on December 17, 2008, and applicable ZOM water quality criteria from 11-54-6(b)(3).

**Table F-8. ZOM Monitoring Data**

Parameter	Units	Applicable Water Quality Standard	Maximum Reported Concentration <sup>1</sup>
Total Nitrogen	µg/L	110 <sup>2</sup>	18,800
Ammonia Nitrogen	µg/L	2.0 <sup>2</sup>	14,700
Nitrate + Nitrite	µg/L	3.5 <sup>2</sup>	15,000
Orthophosphate Phosphorus	µg/L	--	2,660
Total Phosphorus	µg/L	16 <sup>2</sup>	3,460
Chlorophyll <i>a</i>	µg/L	0.15 <sup>2</sup>	1.58
Turbidity	NTU	0.20 <sup>2</sup>	16.00
TSS	mg/L	--	32
pH	s.u.	<sup>3</sup>	7.0
Dissolved Oxygen	mg/L	<sup>4</sup>	5.6
Temperature	°C	<sup>5</sup>	26.7
Salinity	ppm	<sup>6</sup>	5,900

<sup>1</sup> Source: ZOM Application dated December 17, 2008

<sup>2</sup> Water quality standard expressed as a geometric mean.

<sup>3</sup> pH shall not deviate more than 0.5 units from a value of 8.1, except at coastal locations where and when freshwater from stream, storm drain, or groundwater discharge may depress the pH to a minimum level of 7.0.

<sup>4</sup> Dissolved oxygen shall not be less than 75 percent saturation.

<sup>5</sup> Temperature shall not vary more than 1° Celsius from ambient conditions.

<sup>6</sup> Salinity shall not vary more than 10 percent from natural or seasonal changes considering hydrologic input and oceanographic factors.

## 2. Existing Receiving Water Limitations and Monitoring Data

### a. Shoreline Stations

The following are a summary of the geometric mean values calculated from each shoreline monitoring location, reported in the monthly DMRs from January 2008 through October 2012.

**Table F-9. Shoreline Monitoring Stations**

Station	Geometric Mean <sup>1</sup>
	Enterococcus <sup>2</sup>
	CFU/100 mL
MS1	2.1
MS2	23.3
MS4	9.1
Kailua Beach	7.2
Kalama Beach	3.7
North Beach	2.8
Oneawa Beach	5.3
Applicable Water Quality Standard	3

<sup>1</sup> Source: Monthly DMR's submitted by the Permittee from January 2008 through October 2012.

<sup>2</sup> Reported geometric mean is the maximum annual geometric mean reported at each monitoring station.

<sup>3</sup> The water quality standard during the drafting of the previous permit within 300 meters of shore was a geometric mean of 7 CFU/100 mL. The water quality standard established in HAR 11-54 during the drafting of the draft permit is a geometric mean of 35 CFU/100 mL.

### b. Nearshore Stations

The following are a summary of the geometric mean values calculated from each nearshore monitoring location, reported in the monthly and quarterly DMRs from January 2008 through October 2012.

**Table F-10. Nearshore Monitoring Stations**

Station	Geometric Mean <sup>1</sup>
	Enterococcus <sup>2</sup>
	CFU/100 mL
MN1	0.65
MN2	0.81



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Station	Geometric Mean <sup>1</sup>
	Enterococcus <sup>2</sup>
	CFU/100 mL
MN3	0.73
MN4	0.63
Applicable Water Quality Standard	<sup>3</sup>

<sup>1</sup> Source: Monthly and Quarterly DMR's submitted by the Permittee from January 2008 through October 2012.

<sup>2</sup> Reported geometric mean is the maximum annual geometric mean from the top, middle, and bottom sampling points at each station.

<sup>3</sup> The water quality standard established in HAR 11-54 during the preparation of the draft permit was a geometric mean of 35 CFU/100 mL.

**c. Offshore Stations**

The following are a summary of the geometric mean values calculated from each offshore monitoring location, reported in the monthly and quarterly DMRs from January 2008 through October 2012.

**Table F-11. Offshore Monitoring Stations**

Station	Geometric Mean <sup>1</sup>						
	Enterococcus <sup>2</sup>	Nitrate + Nitrite Nitrogen <sup>2</sup>	Ammonia Nitrogen <sup>2</sup>	Total Nitrogen <sup>2</sup>	Total Phosphorus <sup>2</sup>	Turbidity <sup>2</sup>	Chlorophyll <u>a</u> <sup>2</sup>
	CFU/100 mL	µg/L	µg/L	µg/L	µg/L	NTU	µg/L
M1 (Control Station)	0.78	1.19	1.77	93.02	7.27	0.24	0.18
M2	2.4	3.72	3.38	93.02	8.73	0.11	0.18
M3	2.2	1.19	2.15	93.52	8.15	0.21	0.16
M4	5.9	1.79	2.98	91.77	7.95	0.24	0.18
M5	2.4	2.57	4.16	90.45	7.79	0.135	0.19
M6 (Control Station)	1.6	1.33	3.10	92.28	7.58	0.23	0.15
Applicable Water Quality Standard	<sup>3</sup>	3.5	2.0	110	16	0.20	0.15

<sup>1</sup> Source: Monthly and Quarterly DMR's submitted by the Permittee from January 2008 through October 2012.

<sup>2</sup> Reported geometric mean is the maximum annual geometric mean from the top, middle, and bottom sampling points at each station.

<sup>3</sup> The water quality standard established in HAR 11-54 during the preparation of the draft permit is a geometric mean of 35 CFU/100 mL.

### 3. Proposed Receiving Water Limitations

#### a. Basic Water Quality Criteria Applicable to the Facility

- (1) The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the DOH, as required by the Water Quality Act of 1987 (P.L. 100-4) and regulations adopted thereunder. The DOH adopted water quality standards specific for open coastal waters in HAR, Chapter 11-54. The draft permit incorporates receiving water limitations and requirements to ensure the facility does not exceed applicable water quality standards.
- (2) The Pacific Ocean off of Mokapu Peninsula is designated as "Class A Dry Open Coastal Waters." As such, the discharge from the facility shall not interfere with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife and allows recreational activities in and on the water. The draft permit incorporates receiving water limitations for the protection of the beneficial uses of Pacific Ocean.

The Permittee is required to comply with the HAR, Chapter 11-54, Basic Water Quality Criteria of which has been incorporated as part of the draft permit under Section 1 of the DOH Standard NPDES Permit Conditions, dated December 30, 2005.

- (3) The following criteria are included in HAR, Section 11-54-8(b) for recreational areas in marine recreational waters:
  - (a) Within 300 meters (1,000 feet) of the shoreline, including natural public bathing or wading areas, enterococcus content shall not exceed a geometric mean of 35 CFU per 100 milliliters in not less than five samples which shall be spaced to cover a period between 25 and 30 calendar days. No single sample shall exceed the single sample maximum of 104 CFU per 100 milliliters.

Based on the State Enterococcus standard at the time of reissuance, the previous permit included a geometric mean of 7 CFU per 100 milliliters but did not establish a single sample maximum. However, as explained by the DOH in *Rationale for Proposed Revisions to Hawaii Administrative Rules Title 11 Department of Health Chapter 54 Water Quality Standards*, the State enterococcus standard of 7 CFU per 100 milliliters was based mainly on a health risk assessment, not as a regulatory limit. In the rationale, the DOH recommended that the

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State enterococcus water quality standard be revised to a geometric mean of 35 CFU per 100 milliliters and a single sample maximum value of 104 CFU per 100 ml to be consistent with federal standards. The new standards were adopted by the DOH on June 15, 2009, and approved by the EPA on March 19, 2010. The draft permit establishes the new enterococcus standards from HAR, Section 11-54-8(b) for recreational waters within 300 meters (1,000 feet) of shoreline. Since the new water quality standards were adopted by the DOH and EPA for all marine recreational waters, DOH has determined that the impact the new water quality standards established in the draft permit will be insignificant and the level of water quality necessary to protect the existing uses will be maintained and protected.

- (b) At locations where sampling is less frequent than five (5) samples per 25 to 30 calendar days, no single sample shall exceed the single sample maximum nor shall the geometric mean of these samples taken during the 30-day period exceed 35 CFU per 100 milliliters.
- (c) Raw or inadequately treated sewage, sewage for which the degree of treatment is unknown, or other pollutants of public health significance, as determined by the director of health, shall not be present in natural public swimming, bathing, or wading areas. Warning signs shall be posted at locations where human sewage has been identified as temporarily contributing to the enterococcus count.

The draft permit establishes these criteria for recreational areas, as described in Part C of the draft permit, to be consistent with HAR, Section 11-54-8(b).

**b. Specific Criteria for "Class A Dry Open Coastal Waters"**

**Table F-12. Specific Criteria for "Class A Dry Open Coastal Waters"**

Parameter	Units	Geometric mean not to exceed the given value	Not to exceed the given value more than 10% of the time	Not to exceed the given value more than 2% of the time
Total Nitrogen	µg/L	110.00	180.00	250.00
Ammonia Nitrogen	µg/L	2.00	5.00	9.00
Nitrate + Nitrite Nitrogen	µg/L	3.50	10.00	20.00
Total Phosphorus	µg/L	16.00	30.00	45.00
Light Extinction Coefficient	k units	0.10	0.30	0.55
Chlorophyll <i>a</i>	µg/L	0.15	0.50	1.00
Turbidity	NTU	0.20	0.50	1.00

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Parameter	Units	Geometric mean not to exceed the given value	Not to exceed the given value more than 10% of the time	Not to exceed the given value more than 2% of the time
pH	standard units	Shall not deviate more than 0.5 standard units from a value of 8.1, except at coastal locations where and when freshwater from stream, stormdrain, or groundwater discharge may depress the pH to a minimum level of 7.0.		
Dissolved Oxygen	% saturation	Shall not be less than 75 percent saturation, determined as a function of ambient water temperature and salinity.		
Temperature	°C	Shall not vary more than 1°C from ambient conditions.		
Salinity	ppt	Shall not vary more than 10 percent from natural or seasonal changes considering hydrologic input and oceanographic factors.		

The specific water quality criteria listed at HAR, Section 11-54-6(b)(3) for “Class A Dry Open Coastal Waters” shall apply to the treated wastewater through Outfall Serial No. 001, as seen in the table above, at the edge of the mixing zone. The discharges from Outfall Serial No. 001 shall comply with the values listed in the table above, except that the specific water quality criteria for the parameters may be exceeded within the boundaries of the ZOM.

These requirements are consistent with HAR, Chapter 11-54, and retained from the previous permit.

**c. Zone of Mixing (ZOM)**

HAR, Chapter 11-54, allows for a ZOM, which is a limited area around outfalls to allow for initial dilution of waste discharges, if the ZOM is in compliance with requirements in HAR, Section 11-54-9(c). The Permittee has requested that the existing ZOM for the assimilation of treated wastewater be retained. Consistent with the current permit, the ZOM requested is 1,000 feet wide and 1,960 feet along the centerline of the diffuser, and extends vertically downward to the ocean floor.

- (1) Prior to the renewal of a ZOM, the environmental impacts, protected uses of the receiving water, existing natural conditions, character of the effluent, and adequacy of the design of the outfall must be considered. The following findings were considered:
  - (a) The Permittee’s ZOM application indicates that the existing physical environment is a marine bottom, class II reef flats. The ZOM application indicates that no major physical effects are expected due to the continuation of the ZOM.

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- (b) The diffuser for Outfall Serial No. 001 reportedly provides a minimum of 185:1 dilution and discharges approximately 3,323 feet offshore. No information provided in the ZOM application indicates that dilution would be negatively impacted by current conditions. Further, the permit requires the Permittee to conduct a ZOM Dilution Analysis Study to evaluate the available dilution at the edge of the ZOM within three (3) years of the effective date of the permit and verify the presence or absence of assimilative capacity for nutrients with reasonable potential.
  - (c) The Permittee's ZOM application indicates that, based on monitoring data on the existing chemical environment, there seems to be no difference in water quality between the ZOM stations and control stations. Therefore, there appears to be no major environmental effects on the receiving water from the discharge.
  - (d) Effluent data and receiving water data are provided in Tables F-5, F-8, F-9, F-10, and F-11 of this Fact Sheet. The effluent and receiving water data indicate there is a potential for nutrient (ammonia nitrogen) impairment as discussed in Part D.2.e of this Fact Sheet. However, biological monitoring of the Facility's diffuser found that no evidence of negative impacts to fish populations due to the diffuser was identified.
- (2) HAR 11-54-9(c)(5) prohibits the establishment of a ZOM unless the application and supporting information clearly show: that the continuation of the ZOM is in the public interest; the discharge does not substantially endanger human health or safety; compliance with the WQS would produce serious hardships without equal or greater benefits to the public; and the discharge does not violate the basic standards applicable to all waters, will not unreasonably interfere with actual or probable use of water areas for which it is classified, and has received the best degree of treatment or control. The following findings were made in consideration of HAR 11-54-9(c)(5):
- (a) The Facility treats domestic wastewater for approximately 94,000 people in the Ahuimanu, Kaneohe, and Kailua communities and is a necessity for public health. There are no other treatment facilities currently servicing this area and a cessation of function or operation would cause severe hardship to the residents.
  - (b) The level of treatment of the discharge and the depth and distance of the outfall offshore does not substantially endanger human health or safety. A review of the shoreline, nearshore, and offshore

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enterococcus bacteria data does not indicate a shoreward movement of the ocean outfall discharge.

- (c) The feasibility and costs to install treatment necessary to meet applicable WQS end-of-pipe, or additional supporting information, were not provided by the Permittee to demonstrate potential hardships. As discussed in Part E.3.c.(2)(a), the operation of the Facility has been found to benefit the public. No information is known that would revise the finding during the previous permit term that compliance with the applicable WQS without a ZOM would produce serious hardships without equal or greater benefits to the public.
- (d) As discussed in Part D.2.c.(5)(c) of this Fact Sheet, effluent data indicates the presence of pollutants in excess of applicable WQS. However, this permit establishes water quality-based effluent limitations based on WQS. The Permit requires compliance with the effluent limitations and conditions which are protective of the actual and probable uses of the receiving water and implement applicable technology-based effluent limitations.

The Department has determined that the ZOM satisfies the requirements in HAR, Section 11-54-09(c)(5).

The establishment of the ZOM is subject to the conditions specified in Part D of the draft permit. The draft permit incorporates receiving water monitoring requirements which the DOH has determined are necessary to evaluate compliance of the Outfall Serial No. 001 discharges with the applicable water quality criteria, as described further in section F.4 of this Fact Sheet.

**F. Rationale for Monitoring and Reporting Requirements**

40 CFR 122.41(j) specify monitoring requirements applicable to all NPDES permits. HAR, Section 11-55-28 establishes monitoring requirements applicable to NPDES permits within the State of Hawaii. 40 CFR 122.48 and HAR, Section 11-55-28 require that all NPDES permits specify requirements for recording and reporting monitoring results. The principal purposes of a monitoring program are to:

- Document compliance with waste discharge requirements and prohibitions established by the DOH;
- Facilitate self-policing by the Permittee in the prevention and abatement of pollution arising from waste discharge;

- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and,
- Prepare water and wastewater quality inventories.

The draft permit establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the draft permit.

### **1. Influent Monitoring**

Influent monitoring is required to determine the effectiveness of pretreatment and non-industrial source control programs, to assess the performance of treatment facilities, and to evaluate compliance with effluent limitations. Influent monitoring requirements for flow, BOD<sub>5</sub>, and TSS have been retained from the previous permit. Additionally, influent monitoring for ammonia, chlordane, dieldrin, nitrate + nitrite, and total phosphorus has been established in the draft permit in order to determine if ammonia, chlordane, dieldrin, nitrate plus nitrite, and total phosphorus is present in the influent in elevated concentrations. The proposed influent water monitoring requirements are specified in Part A.1 of the draft permit.

### **2. Effluent Monitoring – Outfall Serial No. 001**

The following monitoring requirements are applicable at Outfall Serial No. 001.

- a. Monitoring requirements for ammonia, nitrate + nitrite, total nitrogen, total phosphorus, and turbidity are retained from the previous permit to determine compliance with effluent limitations, where applicable, and to enable comparison with the receiving water ZOM monitoring results determine if the facility effluent is contributing to elevated concentrations of said pollutants.
- b. Monitoring requirements for temperature have been added to the draft permit to enable comparison with the receiving water ZOM monitoring results to determine if the facility effluent is contributing to elevated concentrations of said pollutants. Monitoring requirements are consistent with monitoring requirements for other nutrients.
- c. Monitoring requirements for flow have been retained from the previous permit to calculate pollutant loading and to determine compliance with mass-based effluent limitations.
- d. Monitoring requirements for pH, BOD<sub>5</sub>, enterococcus, and TSS have been retained from the previous permit in order to determine compliance with effluent limitations and to collect data for future RPAs.

- e. Monitoring requirements for all other pollutants listed in Appendix 1 are retained from the previous permit in order to collect data for future RPAs.

### **3. Whole Effluent Toxicity Monitoring**

Consistent with the previous permit, monthly whole effluent toxicity testing is required in order to determine compliance with whole-effluent toxicity effluent limitations as specified in Parts A.1 and B of the draft permit.

### **4. Receiving Water Quality Monitoring Requirements**

#### **a. Shoreline Water Quality Monitoring**

Shoreline water quality monitoring for enterococci is used to determine compliance with water quality criteria specific for marine recreational waters within 300 meters (1,000 feet) of shoreline, as described in Part C of the draft permit. The Permittee shall monitor at seven shoreline stations with a frequency of 5 days per month in order to calculate a geometric mean. These monitoring requirements are retained from the previous permit and included in Part E.1 of the draft permit.

#### **b. Zone of Initial Dilution Water Quality Monitoring**

Water quality monitoring at the boundary of the Zone of Initial Dilution (ZID) has been removed due to the application of end-of-pipe effluent limitations for enterococcus. Near shore monitoring shall be used to determine compliance with water quality criteria specific for marine recreational waters within 300 meters (1,000 feet) of shoreline, as described in Part C of the draft permit.

#### **c. Offshore Water Quality Monitoring**

Offshore water quality monitoring is required to determine compliance with State water quality standards, as described in Part D of the draft permit. The draft permit requires the Permittee to monitor offshore waters at four stations along the boundary of the ZOM and two control stations outside the ZOM. All monitoring requirements for offshore stations are retained from the previous permit and included in Part E.4 of the draft permit.

#### **d. Ocean Outfall Monitoring**

At least once during the term of this permit, the Permittee shall inspect the ocean outfall and submit the investigation findings to the Director. The outfall inspection shall include, but not be limited to, an investigation of the structural integrity, operational status, and maintenance needs. The Permittee shall



include findings of the inspection to the Director in the annual wastewater pollution prevention report in Part F of the draft permit for the year the outfall inspection is conducted. This requirement is retained from the previous permit.

**e. ZOM Dilution Analysis Study**

Permit requirements have been based on a limited assessment of assimilative capacity within the receiving water. The Permittee is required to confirm that assimilative capacity is available in the receiving water for ammonia nitrogen and nitrate + nitrite nitrogen.

**f. Specific Water Quality Parameters Effluent Requirements**

The previous permit included operation performance thresholds for ammonia, total nitrogen, nitrate + nitrite, and total phosphorus and includes a requirement for an initial investigation evaluation plan if the threshold values are exceeded in the effluent. Effluent data from the term of the previous permit indicates ammonia and nitrate + nitrite have reasonable potential to cause or contribute to an exceedance above water quality standards for said pollutants. Thus, effluent limitations for ammonia and nitrate + nitrite are established in this permit. Effluent data from during the term of the previous permit indicates that total nitrogen and phosphorus does not have reasonable potential to cause or contribute to an exceedance above water quality criteria; thus, they are not expected to be present at levels that will degrade ambient water quality. Therefore, the draft permit does not retain operational performance thresholds for ammonia, nitrate + nitrite, total nitrogen, and total phosphorus. However, monitoring requirements for total nitrogen and total phosphorus have been retained.

**G. Rationale for Provisions**

**1. Standard Provisions**

The Permittee is required to comply with DOH Standard NPDES Permit Conditions (Version 14), which are included as part of the draft permit.

**2. Monitoring and Reporting Requirements**

The Permittee shall comply with all monitoring and reporting requirements included in the draft permit and in the DOH Standard NPDES Permit Conditions (Version 14).

**3. Special Provisions**

**a. Reopener Provisions**

The draft permit may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limitations based on newly available information, or to implement any new state water quality criteria that are approved by the EPA.

**b. Special Studies and Additional Monitoring Requirements**

**(1) Toxicity Reduction Requirement.** The draft permit requires the Permittee to submit an initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Director and EPA which shall describe steps which the Permittee intends to follow in the event that toxicity is detected. This requirement is retained from the previous permit and is discussed in detail in Part B.2 of the draft permit.

**4. Special Provisions for Municipal Facilities**

**a. Pretreatment Requirements**

The federal CWA Section 307(b), and federal regulations, 40 CFR 403, require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to CWA Sections 307(b), (c), (d), and 402(b), 40 CFR 125, 40 CFR 403, and in HAR, Section 11-55-24.

The draft permit includes a pretreatment program in accordance with federal regulations and State pretreatment regulations. The pretreatment requirements are based on the previous permit and are consistent with NPDES permits issued to other Hawaii POTWs.

**b. Biosolids Requirements**

The use and disposal of biosolids is regulated under federal laws and regulations, including permitting requirements and technical standards included in 40 CFR 503, 257, and 258. The biosolids requirements in the draft permit are in accordance with 40 CFR 257, 258, and 503, are based on the previous permit and are consistent with NPDES permits issued to other Hawaii POTWs.

## **5. Other Special Provisions**

- a. Wastewater Pollution Prevention Program.** The draft permit requires the Permittee to submit a wastewater pollution control plan by May 31 each year. This provision is retained from the previous permit and is required to allow DOH to ensure that the Permittee is operating correctly and attaining maximum treatment of pollutants discharged by considering all aspects of the wastewater treatment system. This provision is included in Part F of the draft permit.
- b. Wastewater treatment facilities subject to the draft permit shall be supervised and operated by persons possessing certificates of appropriate grade, as determined by the DOH.** If such personnel are not available to staff the wastewater treatment facilities, a program to promote such certification shall be developed and enacted by the Permittee. This provision is included in the draft permit to assure that the facility is being operated correctly by personnel trained in proper operation and maintenance. This provision is retained from the previous permit and included in Part J.1 of the draft permit.
- c. The Permittee shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities.** This provision is retained from the previous permit in order to ensure that if a power failure occurs, the facility is well equipped to maintain treatment operations until power resumes. If an alternate power source is not in existence, the draft permit requires the Permittee to halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power. This provision is included in Part J.2 of the draft permit.

## **H. Public Participation**

Persons wishing to comment upon or object to the proposed draft NPDES permit in accordance with HAR, Sections 11-55-09(b) and 11-55-09(d), may submit their comments in writing either in person or by mail, to:

Clean Water Branch  
Environmental Management Division  
919 Ala Moana Boulevard, Room 301  
Honolulu, HI 96814-4920



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**Comments received from the City and County of Honolulu, Department of Environmental Services**

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1. Page 2, Table of Contents, Correct page numbering.

**Response:** The Table of Contents page numbering was updated as requested.

2. Page 4, Item B.1., 3<sup>rd</sup> Paragraph – Correct diffuser information. The diffuser starts at approximately 4,094 feet from shore. The number of side ports on the diffuser is 81. The diffuser length is approximately 984 feet.

**Response:** The diffuser information was revised as requested.

3. Page 13, Table F-5 – Delete Footnote #3. Footnote #3 does not refer to any table.

**Response:** The footnote was deleted as requested.

4. Page 15, Item D.2.c.(5)(c) – Remove pH from the listed monitoring parameters that have reasonable potential to cause or contribute to an excursion above state water quality standards.

**Response:** pH was removed from this section as requested.

5. Pages 17 and 18, Items D.2.d.(3)(a) and D.2.d.(3)(b) – The analysis for calculating WQBELs and assessing the attainment of water quality criteria for protection of human health from exposure to the carcinogens chlordane and dieldrin through fish consumption is flawed. The analysis used maximum concentration of the pesticide effluent monitoring result based on an annual sample and then adjusted the concentration of the result by incorrectly applying the minimum initial dilution value to the concentrations of priority toxic pollutants for carcinogens, such as chlordane and dieldrin.

Numeric water quality standards for toxic pollutants listed in Hawaii Administrative Rules (HAR) 11-54-4(b)(3) provide acute and chronic criteria to protect aquatic life and fish consumption criteria to protect human health. The list also identifies toxic pollutants that are carcinogens. In accordance with HAR 11-54-4(b)(3) and DOH State Toxics Control Program: Derivation of Water Quality-Based Discharge Toxicity Limits for Biomonitoring and Specific Pollutants (1989)(STCP), minimum dilution is used when comparing toxic pollutant concentrations in effluent discharges through a submerged outfall to numeric chronic toxicity standards and numeric human health fish consumption standards for non-carcinogens. The

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average dilution value is used when comparing toxic pollutants in effluent discharges through a submerged outfall to numeric human-health fish consumption standards for carcinogens. The minimum dilution should not be applied to assess human health criteria for carcinogens such as chlordane and dieldrin.

The water quality criterion for chlordane and dieldrin was based on human health using carcinogenic endpoints in calculation. This calculation is conservative in terms of cancer potency and bio-concentration factors.

On June 16, 2009, the Governor of the State of Hawaii signed legislation that conforms the State Water Quality Standard for chlordane and dieldrin to the current federal standard as set forth in the latest EPA National Recommended Water Quality Criteria (Office of Science and Technology, 2002 & 2006) which incorporate over 20 years of nationwide scientific research concerning the carcinogenicity of toxic pollutants. This amendment was adopted by the Hawaii State Department of Health in December 2009, approved by the Governor on January 25, 2010 and submitted to the EPA for approval in February 2010. Ignoring DOH's rule making and the State's position on water quality standards to develop water quality based effluent limits for chlordane and dieldrin is not justifiable.

Additional reasons why there should not be discharge limitations on dieldrin and chlordane are provided in Attachment A.

**Response:** The RPA and effluent limitations are based on the applicable water quality standards specified in HAR 11-54 and remain applicable until HAR 11-54 is revised to reflect any updated standards.

6. Page 19, Item D.2.e. Ammonia Nitrogen and Page 21, Item D.2.f. – The determination that a reasonable potential exists to exceed water quality standards for ammonia nitrogen and nitrate + nitrite is contradicted by the fact that the receiving water is not impaired. As the Fact Sheet, page 5, acknowledges "CWA Section 303(d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources." Treated effluent is discharged to the Pacific Ocean from the Mokapu Outfall Serial No. 001 through a diffuser approximately 3,323 feet offshore and 105 feet below the water. The location of the Mokapu WWTP Outfall Serial No. 001 in the Pacific Ocean is not listed as an impaired water body on either the 2008/10 State of Hawaii Water Quality Monitoring and Assessment Report: Integrated Report of the U.S. Environmental Protection Agency and the U.S. Congress Pursuant to Sections 303(d) and 305(b), Clean Water Act, or in the 2012 Report. TMDLs are the process for evaluating the causes of any impairment. No TMDLs have been established or are contemplated for this water body.

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Additional reasons why there should not be an ammonia nitrogen and nitrate + nitrite nitrogen discharge limitation are provided in Attachment A.

**Response:** The 303(d) list may not reflect water quality within the immediate vicinity of the outfall. Reasonable potential was based on the monitoring results at the boundary of the Zone of Mixing, where water quality standards should be met. The maximum annual geometric mean of the monitoring results at the boundary of the Zone of Mixing showed exceedances of the water quality standards for ammonia nitrogen and nitrate + nitrite nitrogen.

7. Page 21, Item D.2.e.(4) – Delete references to “nitrate+nitrite” and include correct references to “ammonia nitrogen.”

**Response:** The references to nitrate+nitrite nitrogen was corrected and replaced with ammonia nitrogen.

8. Page 21, Item D.2.e.(4) – The maximum effluent ammonia nitrogen reported from calendar years 2008 to 2012 was 14.7 mg/L (14,700 µg/L) reported in May 2012.

**Response:** The maximum effluent concentration for ammonia nitrogen reported during the calendar years 2008 to 2012 was revised to 14,700 µg/L.

9. Page 23, Item D.2.j. Enterococcus – There is no justifiable basis for establishing water quality based enterococcus discharge limits in the permit because there is no reasonable potential that enterococcus concentrations in the KRWWTP’s effluent cause or contribute to an exceedance of the water quality standards based on the following:

- i) The draft permit specifically allows a Zone of Mixing (ZOM). The ZOM is the proper mixing zone. According to EPA’s Technical Support Document for Water Quality-based Toxics Control (TSD) (USEPA, 1991), a mixing zone is an allocated impact zone where water quality criteria can be exceeded.
- ii) DOH indicated that there are no exceedances of enterococcus at the edge of the ZOM.
- iii) Monitoring data from the edge of the ZOM should be used when determining whether Kailua WWTP has complied with enterococcus bacteria criteria of a monthly geometric mean of 35 cfu/100 mL
- iv) DOH provided the following basis for its reasonable potential determination: “the [KRWWTP] facility is a POTW, and pathogens are characteristic of

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treated municipal wastewater[.]” This is not an adequate justification to establish an end of pipe limit for enterococcus. The impact of the discharge to receiving water is measured by compliance with the applicable State Water Quality Standards. No enterococcus exceedances were observed at the Zone of Mixing.

**Response:** As stated in the Fact Sheet, Section 3.3 of EPA's EPA's Technical Support Document for Water Quality-Based Toxics Control states that the regulatory authority should consider additional information discussed under Section 3.2 (i.e., type of industry, type of POTW, type of receiving water and designated uses, etc.) when evaluating reasonable potential. Reasonable potential can be determined without effluent or receiving water exceedances of applicable water quality criteria. Because the facility is a POTW, and pathogens are characteristic of treated municipal wastewater, and the beneficial uses of the receiving water include recreation where human contact may occur, reasonable potential for enterococcus has been determined.

10. Page 26, Item D.2.k., 2<sup>nd</sup> paragraph from the bottom - “IWC(100 percent effluent)” should be changed to the appropriate influent wastestream concentration based on the average dilution.

**Response:** This equation was revised as requested.

11. Page 27, Item D.2.k., 1<sup>st</sup> sentence – Revise the sentence to read, “The acute and chronic biological effect levels (effect levels of 20% and 25%, respectively, or b values of 0.80 and 0.75, respectively) incorporated into the TST define EPA's unacceptable risks to aquatic organisms.” Reference to this change can be found in the EPA document (See EPA 833-R-10-003 document).

**Response:** This sentence was revised as requested.

12. Page 31, Item E.2.a., Table F-9, Footnote 3 – During the drafting of the draft permit, the water quality standard established in HAR 11-54 applicable within 300 meters from shore was 35 CFU/100mL, not 34 CFU/100mL.

**Response:** The water quality standard was revised to 35 CFU/100 mL.

13. Page 32, Item E.2.c, Table F-11 – The methodology for reporting the highest geometric mean as described in footnote #2 is not applied consistently throughout Table F-11 for every listed parameter.

**Response:** The values in the table were corrected.



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14. Page 39, Item F.4.b., Nearshore Water Quality Monitoring – Please see comment 29 on the draft permit which sets forth the basis for establishing the Mokapu Outfall nearshore stations.

**Response:** The nearshore water quality monitoring was deleted as requested.

15. Page 41, Item G.4.a, 2nd paragraph, last sentence – Delete the last sentence. The current draft permit as well as the previous draft permit dated February 20, 2013 did not have a requirement for the City to implement and update a BMP-based program for controlling animal and vegetable oil and grease.

**Response:** This sentence was deleted as requested.

16. In general, DOH does not use the same data period consistently throughout the draft permit for all analyses. For example, on Page 11, item 92), DOH states that the RPA was based on effluent monitoring data from January 2008 to June 2012. However, on Page 21 DOH uses data from March 2008 – October 2012 for the RPA on ammonia nitrogen. DOH should provide a rationale for using different time periods in its data analyses.

**Response:** The vast majority of data is based on January 2008 through June 2012 (with the exception being nutrients), and represents the data that was available at the time the analysis was conducted. Data from the last five years was collected, summarized, and used for the analyses, at which point the RPA was performed. Additional data does not change reasonable potential, once determined, since the maximum value during the time period is considered for each parameter. The use of additional data, however, could determine reasonable potential where there previously was none. In the case of this permit, data between July 2012 and December 2012 was examined to see if any reasonable potential determination would need to be changed. Based on our examination, there were no additional parameters with reasonable potential and thus to expedite permit processing, the data used in the evaluation was not updated.

DOH evaluated the application of nutrient data numerous times during the permitting process, using a direct comparison of the maximum annual geometric means of the receiving water concentrations to the applicable water quality standards. In this case, additional data could raise or lower the annual geometric mean. Therefore the data set was updated each time using the most recent data. DOH made no attempt to selective choose the data sets.

17. Page 20, Item D.2.e(4), paragraph 3; Page 22, Item D.2.f.(4), paragraph 2; Page 35, Item E.3.c., Item (1)(b); Page 39, Item F.4.f. – The draft permit states that the purpose of conducting a ZOM Dilution Analysis Study is to establish available

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dilution at the edge of the ZOM and verify that assimilative capacity within the receiving water exists for ammonia nitrogen and nitrate + nitrite nitrogen.

The City request the deletion of the ZOM Dilution Analysis Study requirement since the purpose of the study has been fulfilled as follows:

The City engaged HDR | Hydroqual to conduct a technical analysis using the United States Environmental Protection Agency (EPA) Visual Plumes three dimensional Updated Merge (UM3) model to determine the likely dilution available at the edge of the Zone of Mixing. Hydroqual has expertise in pollutant transport, plume dispersion and evaluating a water body's assimilative capacity. Based on historical data submitted to the Department of Health, Hydroqual's Technical Memorandum estimated a conservative critical dilution and far-field dilution credit at the edge of the Zone of Mixing. Hydroqual has determined that a critical dilution of at least 240:1 exists in the immediate neighborhood of the diffuser. As Hydroqual explains, there is a significant additional mixing and dilution from the diffuser to the perimeter of the Zone of Mixing. As explained in the TM, the data demonstrated that the average dilution of the discharged effluent from the Mokapu Outfall is at least 600:1 at the boundary of the ZOM. The City has submitted this dilution Technical Memorandum under a separate cover letter (EMC 13-164, dated October 22, 2013).

- i) There is assimilative capacity in the receiving waters. In the Fact Sheet, DOH has indicated that there is assimilative capacity for ammonia nitrogen on Page 20, item (4), 2<sup>nd</sup> paragraph and for nitrate + nitrite nitrogen on Page 22, item (3), 3<sup>rd</sup> paragraph, last sentence.

**Response:** Since the original draft permit was prepared in February 2013 the City has continuously corresponded with our contractor and submitted several documents for our consideration for the draft permit. This courtesy is one of the reasons why the permit has not been issued to date. All pertinent information for the reissuance of the permit should have been submitted with the permit application. Therefore, the DOH will not consider the study at this time. The City may submit the study for compliance with this permit. If appropriate, the City may request a modification to this permit.

## DRAFT PERMIT

18. Page 3, A.1., 1<sup>st</sup> Table of Effluent Limitations and Monitoring Requirements – Remove the reference to footnote 3 from the Measurement Frequency Column in the Flow row.

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The BOD and TSS mass emission rates (MERs) should be based on the existing plant design flow of 15.25 MGD. Accordingly, the MERs should be 3,816 lbs/day and 5,723 lbs/day for the average monthly and average weekly discharge limitations, respectively.

**Response:** Footnote 3 was clarified and remains in the permit. The BOD and TSS mass emission rates remain as calculated in the draft permit. Although the plant design flow was increased prior to the issuance of the previous permit, the limitations in the previous permit as well as this permit are based on the old design flow of 12.7 MGD. This is because an antidegradation analysis for the increase in flow in accordance with Hawaii Administrative Rules, Section 11-54-1.1 was never submitted to DOH.

19. Page 3, A.1., 1<sup>st</sup> Table of Effluent Limitations and Monitoring Requirements – Correct Footnote 1: Design flow is 15.25 MGD.

Revise Footnote 2: Delete the word test. The footnote should read “The Permittee shall monitor and report the results.”

**Response:** The design flow remains at 12.7 - see previous response to comment. Footnote 2 was revised as requested.

20. Page 3, A.1., 2<sup>nd</sup> Table of Effluent Limitations and Monitoring Requirements – Remove “TUc” from the “units” column in the “Chronic Toxicity” row. There is no unit for a test that is reported either as “Pass” or “Fail.”

**Response:** The unit for chronic toxicity was removed as requested.

21. Page 3, A.1., 2<sup>nd</sup> Table of Effluent Limitations and Monitoring Requirements – The City requests deletion of the enterococcus daily and monthly geometric discharge limitations of 6,510 and 93,186 cfu/100mL, respectively. It is inappropriate and unjustifiable for the Department of Health to impose numerical effluent limitations for enterococci. Also see comment 9.

**Response:** The DOH’s determination of reasonable potential for enterococcus exceedances is in accordance with Section 3.3 of EPA’s Technical Support Document for Water Quality-Based Toxics Control, as documented in the Fact Sheet.

22. Page 4, 2<sup>nd</sup> Table of Effluent Limitations and Monitoring Requirements – The City requests deletion of the ammonia and nitrate+nitrite discharge limitations. It is inappropriate and unjustifiable for the Department of Health to impose numerical effluent limitations for ammonia and nitrate+nitrite. Correcting the reasonable

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potential analysis demonstrates that there is no reasonable potential for the City's discharge of nutrients to cause or contribute to an exceedance of State WQS. The City should continue to monitor ammonia and nitrate+nitrite as set forth in the existing permit. Also see comment 6.

**Response:** The DOH's determination of reasonable potential for ammonia nitrogen and nitrate+nitrite nitrogen exceedances is in accordance with of EPA's Technical Support Document for Water Quality-Based Toxics Control, as documented in the Fact Sheet.

23. Page 6, Part B. – DOH should not only consider using *Tripneustes gratilla* exclusively for the Whole Effluent Toxicity Test. The sensitivity of an organism to various pollutants is also an important consideration in the selection of the test organism. No single organism is sufficiently sensitive to all toxicants that using it alone for Whole Effluent Toxicity testing will provide an appropriate degree of protection to all organisms in the receiving water. Including *Ceriodaphnia dubia* along with *Tripneustes gratilla* will provide a broader evaluation of the whole effluent toxicity profile of the effluent.

**Response:** As documented in the Fact Sheet, based on approximately 4.5 years of data, there is no reasonable potential for *Ceriodaphnia Dubia* to exceed the whole effluent toxicity limitations. Therefore testing requirements for *Ceriodaphnia Dubia* was removed.

24. Page 8, Item B.4.f. – Insert hyphen (-) after "re" for "re sample" and "re test."

**Response:** Hyphens have been inserted as requested.

25. Page 9, Item 5.6.e. – Revise the sentence as follows: "Prior to conducting a TIE, the Permittee shall submit a TIE plan to the Director for approval."

**Response:** The sentence remains as written in the draft permit. See response to comment 26 below.

26. Page 10, Item B.6.e., middle of page – Revise the sentence as follows: "The Permittee shall incorporate all comments received from the Director within 14 days of receiving comments and commence with the TIE."

**Response:** The sentence remains as written in the draft permit. The Permittee is solely responsible in identifying toxicity in their own effluent to comply with their NPDES permit conditions and HAR 11-54. The permit contains 10 minimum requirements to help the City develop the TIE plan.

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27. Page 10, Part B.7.a – In its previous response to the KRWWTP draft permit (submitted via a March 13, 2013 letter, EMC13-064), the City suggested changing the “percent mean response at IWC” to “percent effect at IWC.” However, EPA did not accept the change because no rationale was provided. Equation E-1, page E-3 of the EPA 833-R-10-003 June 2010 document is the basis for the correction. The proper terminology is mean effect at the IWC expressed in %. These results are used for the reasonable potential (RP) calculations.

$\% \text{Effect at IWC} = ((\text{Mean Control Response} - \text{Mean Response at IWC}) / (\text{Mean Control Response})) \times 100.$

**Response:** The equation has been revised as requested.

28. Page 11, Item B.7.c. – Change from “within five (5) calendar days” to “within five (5) business days.” The reason for this change is that it will be difficult to meet the calendar deadline for the written submission if there is a weekend or observed holiday around the time of the WET exceedance occurrence.

**Response:** The deadline was revised from “five (5) calendar days” to “five (5) business days” as requested.

29. Page 17, Part E, Item 2 – The City requests deletion of this requirement. First, the City cannot establish near shore sampling stations within 300 meters of the shoreline, because the U.S. Navy has designated a 500-yard (or 457.2-meter) prohibited area around the perimeter of Mokapu Peninsula. United States Coast Pilot 7 (45<sup>th</sup> edition 2013).

Second, there are there no exceedances of enterococcus that would give rise to such a requirement, and no other data indicating that the KRWWTP’s effluent causes or contributes to an exceedance of the water quality standards.

Third, due to existing hazardous conditions, the City cannot establish nearshore water quality stations within 300 meters from shoreline. A listing of the nearshore stations established for the existing permit and their latitude and longitude locations is attached (Attachment B). Hazardous wind and water conditions including breaking waves, gale winds, swells and inclement weather can create very dangerous situations for conducting water quality sampling within the 300 meters boundary.

Fourth, the Ocean sampling team established stations MN1 and MN2 at their present location because of the Kaneohe Marine Corps Base Hawaii (MCBH) prohibited area, and in order to minimize direct line of fire from the MCBH Ulupau Crater Weapons Training Range.

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The attached nautical map (see Attachment C) shows the shallow water conditions, areas of breaking waves and reef; and prohibited/restricted areas near the nearshore monitoring stations. Note that in this map, the City's nearshore monitoring stations, MN1, MN2 and MN3 lies along the boundary of a prohibited area.

The City Regularly has to cancel water quality monitoring at the existing nearshore stations due to small craft warnings, gale winds or inclement weather. The table below summarizes the number of cancellation incidents by calendar year since 2008:

Summary of Cancellation by Calendar Year at the Nearshore Monitoring Stations Mokapu Ocean Outfall*	
Year	# of cancellation events
2008	22
2009	31
2010	24
2011	28
2012	37

Attachment T provides receiving water sampling cancellation notices from the City's Oceanographic Team

**Response:** The nearshore water quality monitoring was removed as requested.

30. Page 18, Part E, Item 3, footnote to water quality parameters table – On the grab sample, modify the footnote to read sample within 1 meter below the surface for the top grab sample and to sample within 2 meters above the ocean floor for the bottom grab sample.

On the continuous depth profile, modify to read "Parameter shall be measured on a CDP basis, from within 1 meter below the surface to within 2 meters above the ocean floor at 1 meter intervals."

The reasons for the above request is that given the wave motion and difficulty in securing the boat in place, it is difficult to deploy the CTD equipment to measure exactly one meter from the water surface and two meters from the bottom of the ocean floor.

**Response:** The change to the grab sample locations were revised as requested.

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31. Page 19, Part E, Item 5. – The City requests the removal of the ZOM Dilution Analysis Study requirement. Rationale is provided in comment 17.

**Response:** See response to comment 17.

32. Page 20, Part E, Item 6.b. – For the list of examples to provide as to the differences unique to each receiving water monitoring station, the City will provide station location (location map and coordinates). The City does not routinely record ocean bottom conditions when sampling at the receiving water monitoring stations.

**Response:** This section was clarified to require that the ocean bottom conditions be recorded at least once per calendar year.

33. Page 23, Part G, Item 4. – In its comments to the previous draft permit dated February 20, 2013, the City requested that the annual report submittal deadline of February 28 be changed to March 31 to be consistent with the City's other NPDES permits with submittal deadlines of March 31. On Page 7-8 of DOH's Response to [the City's] Comments, DOH indicated the draft permit was revised based on the City's comment. However, this revision is not reflected in the current draft permit.

**Response:** The pretreatment report deadline was revised to March 31<sup>st</sup> as requested.

34. Page 26 of the draft permit, Part H, Item 1.a.(1)(a) – The City would like to add H-Power as an acceptable sludge disposal option.

**Response:** The City is required to dispose of sludge in accordance with HAR, Chapters 11-58.1 and 11-62; and 40 CFR Parts 257, 258, and 503. H-Power may be an acceptable sludge disposal option if it meets all criteria in the regulations.

35. Page 37, Part I, Item 2.f.(1), table of report deadlines – The City is requesting the removal of the ZOM Dilution Analysis Study requirement. Therefore, the last two rows in the table of reports due should be removed, as they relate to the dilution study. Rationale for the deletion of the dilution study is provided in comment 17.

**Response:** The report deadline remains in the permit. See response to comment 17.

36. Appendix 1, Monitoring Methods, page 2 – Appendix 1 incorrectly lists Dichlorobenzene under the "Base/Neutrals Extractable" parameter. These three analytes (1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene) should be listed under the "Volatile Organics" parameter as 40 CFR 136 allows grab sampling under EPA method 625.

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**Response:** The analytes (1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene) are listed as Base/Neutral Extractables in 40 CFR Part 136, Appendix A, Method 625, Table 1.

**Comments Received From Mr. James S. Kumagai**

I am responding as a concerned citizen and taxpayer in the city and County of Honolulu, State of Hawaii, USA, to your notice of September 25, 2013, on the matter of the draft NPDES Permit for the Kailua Regional Wastewater Treatment Plant. I am neither affiliated with the permittee in any way or form nor with any of the enforcing agencies. I am concerned with the outcome of the permit decisions as a citizen who cares about the quality of our environment and one who must pay for, and bear the consequences of, any action or inaction on this matter.

While this response focuses on the permit for the Kailua Regional Wastewater Treatment Plant discharges, my comments and recommendations are intended to be fundamental and applicable to all other point discharges on Oahu that may be subjected to similar conditions for ocean outfall discharges.

I am familiar with the environment issues and their history to the extent of my experience: (1) as a registered professional engineer in the State of Hawaii (PE2977C) practicing in environmental engineering, (2) my academic background (BS 1962 University of Hawaii, MS 1965 Washington University St. Louis, PhD 1969 University of California Berkeley), (3) my specific work experience: (a) as the lead engineer for Sunn Low Tom and Hara Inc. as part of the team that developed the Water Quality Program for Oahu, 1969–1972, (b) as a NAUI certified (1971) SCUBA diver who actually observed first hand, the real world underwater end-of-pipe conditions at all of the ocean outfall disposal sites existing at that time, (c) as Deputy Director of Environmental Health at the DOH, 1975-1980, (4) as representative of the Hawaii Water Pollution Control Association appearing before the US Senate Subcommittee on Environmental Pollution (Senator Muskie, Chairman) of the Committee on Public Works, Ninety-Third Congress, march 18, 1974, to present testimony and support for amending the Federal Water Pollution Control Act Amendments of 1972 which later passed into law as Section 301H to the CWA.

There are three major categories of effluent limits proposed that are objectionable for the following reasons. They are contrary to 1) science, 2) real word experience, and 3) the public interest. It is emphasized here that the effluent limits and not the monitoring and reporting requirements that are objectionable.

It is recognized that the draft permit is an instrument of regulatory action under statutory authority. However, it should be acknowledged by all that the authority is obligated to



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serve the public interest. The regulation is a means to an end, and that end is environmental quality control holistically involving the land, air, water, and people. It is in this spirit that comments and recommendations are offered for consideration.

The objectionable categories in the proposed draft are the following:

- A. Nutrients: ammonia and nitrate/nitrite (Part A. Effluent Limitations. Outfall Serial 001)
- B. Chlordane (Part A, Effluent Limitations. Outfall Serial 001)
- C. Dieldrin (Part A, Effluent Limitations. Outfall Serial 001)
- D. Whole effluent toxicity using T. Gratilla (Part B. Whole-Effluent Toxicity Requirements)

#### APPLICABLE SCIENCE AND EXPERIENCE

A brief history of the environmental movement is reviewed here to define the context for the comments and recommendations presented here for consideration.

The City and County of Honolulu adopted the Water Quality Program for Oahu (WQPO, 1972). The development of the program started in 1969 even before the passage of the PL92-500, or the Federal Water Pollution Control Amendments of 1972. Nevertheless, the public debate over the provisions of the law was well underway early in the decade of the 1960s. What emerged in the public forefront were the laws of ecology as aptly stated by Barry Commoner (1971).

- 1. Everything is connected to everything else
- 2. Everything must go somewhere.
- 3. Nature knows best.
- 4. There is no such thing as a free lunch.

The decade of the 1960s was action-packed for the country and for Hawaii. Following statehood in 1959 and the subsequent economic-boom and urban growth on Oahu, there were 45 individual wastewater treatment plants constructed on Oahu to treat the increased wastewater discharges resulting from a booming population. All effluent discharges went into inland streams and water bodies or nearshore coastal waters. Treatment systems were designed by the then "10-State Standards" of the Upper Mississippi River Basin.

The design and regulatory culture of that day was technology-based, i.e., build more treatment plants. Continue discharging effluent at least cost into the inland and nearshore waters of the island. It met all regulatory requirements and became a mindless routine. However, public concerns and outcry grew over the water quality impact of some of the discharges. The system was not working. There were already

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questions about the wisdom of continuing this wastewater treatment and disposal strategy into the future of Oahu, regardless of its compliance with the regulatory requirements of that day.

The City and County of Honolulu commissioned a team of consulting engineering firms in 1969 to develop of the Water Quality Program for Oahu to study the issues and recommend a plan for a program. What emerged immediately was the principle of discharging effluent where it would do the least harm. The City and County of Honolulu commissioned a team of consulting engineering firms in 1969 to develop of the Water Quality Program for Oahu to study the issues and recommend a plan for a program. What emerged immediately was the principle of discharging effluent where it would do the minimum harm to the environment or where it might do some good as in reclamation and reuse. Everything must go somewhere. In an island community with limited land resources and an ecosystem in the middle of the Pacific, the choice for the backbone of the water quality program was the deep ocean outfall disposal systems. Here, space, time, and energy are virtually unbounded for stabilization of wastewater discharges according to nature's way. Nature knows best. The ultimate boundary conditions of our ecosystem were seen to be limitless compared to those of the Continental USA.

**Response:** DOH acknowledges the commenter's discussion. The discussion does not appear to necessitate a response.

**Learn from experience: how WQPO resolved the issue of effluent discharges into Kaneohe Bay and into the shoreline at Kailua Bay.**

In 1970, the discharges into Kaneohe Bay included the then MCBH flow of 1.0 mgd primary effluent and flows from the City and County treatment plants at 2.5 mgd trickling filter effluent from Kaneohe STP and 0.1 mgd package aeration plant from Ahuimanu STP. There were already water quality problems noted in Kaneohe Bay with eutrophication and coral toxicity. WQPO determined from field monitoring studies and laboratory assays from biostimulation of selected primary producers and for toxicity on coral planulae. It was concluded that more treatment even to tertiary levels would not eliminate the risk of adverse impact on the local ecosystem. The recommendation was to divert the point discharges completely out of Kaneohe Bay and combine them with the diversion of the then shoreline outfall discharge from Kailua into the Mokapu outfall system extending far into the open coast regime. That is where space, time and energy were available to allow the progression of the stabilization process as nature knows best. That plan was the zero risk alternative for both Kaneohe Bay and for the shoreline coastal waters fronting Kailua Bay. More significantly, that plan represented a net positive environmental gain for the region.

Besides, WQPO evaluated the water quality issue holistically and identified the reality of nutrients and sediment runoff from the tributary stream as nonpoint flows to influence

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the ecosystem in the bay to negate whatever gains that might have arisen from advanced treatment technology to meet nutrient limits. Money would have been spent on treatment technology to achieve nothing, except perhaps for political expediency.

**Response:** DOH acknowledges the commenter's discussion. The discussion does not appear to necessitate a response.

**NUTRIENT LIMITS IN THE PERMIT: THERE IS NO FREE LUNCH.**

Nutrient limits proposed in the draft permit will do nothing in water quality enhancement but will harm the environment in the broader holistic sense.

The problem may be with the regulatory artifacts of the nutrient standards. It is not a real environmental problem for us, but it can be made to become a problem artificially, or bureaucratically, as it appears to be the case here. For one thing, there is no real-world impairment of beneficial uses of the local, open coastal waters from nutrients. There is no scientific basis for imposing effluent limits for nitrogen, nitrate/nitrate and/or ammonia.

Instead, an environmental problem can be created by imposing the effluent limits for nutrients as it is being proposed in the draft permit to force expensive remedial action to solve a non-issue or to resolve an artifact of the regulatory system.

Fundamentally, nitrogen and other nutrients are essential for primary productivity in the coastal waters. For Kaneohe Bay, the problem was eutrophication and coral toxicity. In the open coast regime, the ecosystem functions efficiently within the available limits of space, time, and energy. Primary productivity involves photosynthesis where sunlight is amply available for energy to drive the process. (In a situation of limited sunlight in the deep ocean there is no photosynthesis.) Photosynthesis utilizes carbon dioxide for synthesis and gives off free oxygen. Carbon dioxide is receiving considerable attention nationally and internationally as a greenhouse gas leading to adverse climate change. Carbon dioxide uptake by primary producers is highly desirable for this purpose. Granted, the extent of primary productivity from nutrients from the Kailua discharge may be relatively small in the global context, but in principle, it gives a net positive environmental outcome. Every little bit counts. Nutrients in our open coastal waters in general will be good by promoting primary production with attendant reduction in greenhouse gas emissions consistent with national and international policy. It is unlikely that problems of eutrophication would ever occur in the open coast regime for Oahu as it could in an embayment, considering the scale of urbanization and population growth physically possible for Oahu.

The ultimate boundary condition for the open coast regime referred to here is best described in Mark Denny (2008) as two layered ocean stratified by stable thermocline

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derived from glacial water flow and tropical climate temperature giving turnover rates of the inner ocean layer on the order of 500 to 1000 years. The time scale is not hours, not days typical of technology, but centuries. That is not to say, that the advocacy here is to extend the disposal system to the middle of the Pacific. This characterization is made to show that for the open ocean disposal systems, space, time, and energy is virtually boundless for our island ecosystem, limited only by our ability to engineer the system cost-effectively. For all practical purposes, there are no physical limits to our boundary conditions for water quality management and we can rely on nature as a partner to the maximum extent feasible to give a net positive environmental gain.

On the contrary, imposing effluent limits for nutrients, nitrate+nitrite nitrogen and ammonia nitrogen will diminish or eliminate completely the positive environmental effects of primary productivity on green house gas emissions. Worse yet, we will be actually building a greenhouse gas manufacturing plant in the process of applying technology for treatment. Fossil fuel derived energy is typically needed to drive that technology with corresponding greenhouse gas emissions. With an activated sludge anoxic selector plant for nitrogen removals typically to nitrogen gas, there will also be a contribution of nitrous oxide which is produced in the biochemical pathway to the nitrogen end product (Wigglesworth, 1997). Although likely to occur in small quantities, the global warming potential of nitrous oxide is significant, 310 times the carbon dioxide value! Even that little bit could have a significant impact. There is no free lunch in ecology.

The discharge from the Kailua outfall by itself is small by comparison to the sum of all other point discharges on the island. But considering that sum of all point discharges for Oahu, the cost for compliance with the effluent limits in capital and operating expense over the lifetime of all the facilities could well add up to a billion dollars. And for what? To solve a problem artificially created? That is absurd. We, as a community, will look awfully foolish attempting to solve an environmental non-issue while adding to the problem of climate change in the process that our nation and the rest of the world are trying to forestall. It is certainly not in the public interest, to put it mildly. Putting it more emphatically, it would be criminal to force us to pay for this foolishness as citizens.

By comparison, it will cost nothing to remove the effluent limits as proposed from further consideration

For more complete treatise on the science of nutrients in the marine environment refer to Mark Denny (2008), and John Wigglesworth (1997) in the list of references at the end. Mark Denny's book is very readable. Wigglesworth is more technical but informative. In addition, to gain a better perspective of what the discharge conditions are like in the receiving waters, go out for an onsite visit and look.

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Recommendation:

1. Remove the proposed effluent limits.
2. Design our management and regulatory system based on natural systems to control water quality impacts from effluent discharges in our coastal waters. Nature knows best.
3. Apply technology for effluent limits only as a last resort as necessary.
4. Emphasize monitoring in situ performance of nutrient concentrations and mass emissions in space and time and the corresponding indices of primary productivity.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. Further, as previously discussed in this response to comments, the effluent limitations for ammonia nitrogen and nitrate + nitrite are based on estimated current treatment performance, and costly facility upgrades are not expected to be necessary for the Permittee to comply. Applicable effluent limitations for ammonia nitrogen and nitrate + nitrite have been included in the proposed permit based on the requirements and HAR 11-54 and 11-55.

#### CHLORDANE AND DIELDRIN

Chlordane and dieldrin are banned from use. Their residues in the environment come from past usage remain and will persist in the environment well into the distant future.

Like the rest of the persistent synthetic organic chemicals, they will eventually permeate the earth's ecosphere following the second law of thermodynamics (entroph). DDT is an example that has been documented. The pathways and kinetics are often unclear but the end result is certain.

It is likely that groundwater infiltration into the sewer is a source of chlordane and dieldrin concentrations. As such, they represent but a leakage from a pool that is the major contributor of contaminants into our coastal environment as they naturally permeate the nearshore coastal waters and eventually the offshore waters. Ultimately, chlordane and dieldrin will reach equilibrium in concentration uniformly over space. It may degrade in time in the distant future well beyond the half life of the compounds.

Given the observed mass emissions rates of chlordane and dieldrin in sewage, that leakage is small and insignificant by comparison to the pool based on their mass applied on land over the years. Placing effluent limits on chlordane and dieldrin would only incur cost to achieve the effect of a removing a drop-in-the-bucket and transferring it somewhere else in the environment where it might do still more harm. It must go somewhere. Effluent limits will serve no useful purpose other than to claim we are doing something about it and hope we are not creating more harm than good elsewhere.

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It is more important to assure through monitoring that no new sources of contamination are contributing and that there are no "hotspots" in the environment that require local remedial action to safeguard public health.

**Recommendation:**

Remove the effluent limits for chlordane and dieldrin but leave the monitoring and reporting requirements in place.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. HAR 11-54, 11-55, the STCP, or applicable federal regulations do not provide an exception for legacy pollutants within permittee's effluent.

**WHOLE EFFLUENT TOXICITY**

The use of *T. Gratilla* should be discontinued and replaced by a more stable test organism. The results would always be suspect since the test organism appears to be overly sensitive to the test conditions beyond the parameters being tested.

Experience with the WQPO (1972) suffered the same predicament using oyster larvae and nehu. They were overly sensitive and simply confused the results. The issue was resolved by choosing damsel fish and tilapia. Stickleback was also attempted to correlate mainland effluent results but there was an issue going outside of the local environment for the test organism or importing a non-native animal and risking escape to, and proliferating in, our environment. Bioassays for toxicity are not deterministic procedures. They are probabilistic/stochastic, intended as indicators of risk or the odds of a toxic property being present. There are many uncertainties in interpretation. The analytical "noise" and resulting confusion are the distractions that could lead to more questions than answers.

In an case, the in situ monitoring of the biological communities will be the necessary data/information to supplement decisions on adequacy or acceptance.

**Recommendation:**

Choose an alternative test organism that can cost-effectively satisfy the requirement for whole effluent toxicity.

**Response:** The commenter does not support the assertion that the use of *T. gratilla* is "overly sensitive". The use of *T. gratilla* is appropriate because it is a local species that has demonstrated sensitivity to toxicity present effluents discharged in Hawaii. The narrative toxicity limitation contained in HAR 11-54-4 requires all waters shall be free of

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substances attributable to domestic, industrial, or other controllable sources of pollutants, including: toxic substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life. To evaluate compliance with this requirement, HAR 11-54-4(b) establishes the use of whole effluent toxicity testing. To ensure the protection of aquatic life from toxic substances, a species sensitive to toxicity should be selected. The use of a robust species does not ensure compliance with the narrative toxicity standard established in HAR 11-54. *T. gratilla*'s sensitivity to toxicity within effluents, combined with it being a local species, is exactly what makes the selection of *T. gratilla* appropriate for evaluating compliance with the applicable water quality standards. The use of *T. gratilla* is continued in the proposed permit.

#### WHERE DO WE GO FROM HERE? BACK TO THE FUTURE

The federal initiative is to upgrade standards and press for ever more stringency in permit conditions. The intention is well meant, but it appears to be creating an ever more complex system to regulate and administer. The danger is getting mired in attempts to sort out the complexities of the means while ignoring the ends.

Historically, after the passage of NEPA in 1969, the environmental laws for air, water, drinking water, hazardous materials, toxic substances, etc. were passed in rapid succession piecemeal by Congress at different times, by different committees, following different environmental criteria, while all professing to be for the good of public health and the environment. The result is a fragmented set of environmental programs, although well intentioned.

Imposing the effluent limits is a case in point. It appears short sighted and operating in a silo. At the very outset of the environmental ground-swell in the 1960s, many argued for a holistic approach. Barry Commoner's laws of ecology is a classic result. The creation of a single federal agency to bring all the programs under one roof was once thought to be a way to overcome the effects of fragmentation in the environmental programs. The idea of the unity of nature was also brought out in the announcement of the then President Nixon when the US EPA was formed in 1970. The President said..."Despite its complexity, for pollution control purposes the environment must be perceived as a single related system." He went on to announce, "A far more effective approach to pollution control would identify pollutants; trace them through the entire ecological chain, observing and recording changes in form as they occur; determine the interactions among forms of pollution; (and) identify where on the ecological chain interdiction would be most appropriate." (Ruckelshaus, 1985)

Instead, things got even more complex as time went on. We now have a mixed bag of issues involving science and the law. It appears we have lost sight of our real environmental goals and objectives. The idea of coordination through a single agency at the federal level has not been happening. Instead, Ruckelshaus (1985), the first

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Administrator of the newly formed US EPA under President Nixon, in hindsight, recommended taking Rene Dubos' suggestion to heart in resolving the environmental complexity by:

"Thinking globally, acting locally."

Case in point: Nutrient limits. We cannot apply Continental USA solutions to environmental problems to Hawaii. We must act locally to deal with our own issues. The corollary is to say one-size-fits-all approach does not work for the environmental issues remaining for our future. Maybe at one time it did, but not anymore. Centralized administration of programs obviously does not, and cannot, respond to the reality of this world of diverse ecosystems and cultures. The only way to deal with the real world is to think globally but acting locally. The goals and objectives of the federal and state legislation for environmental quality are not compromised at all by doing so. It is time that we go back to advocacy of the early initiators of the country's environmental movement. That is, going back to the future.

**Recommendation:**

1. Do it.
2. Keep it simple and relevant.
3. Think globally, act locally.
4. Revise the effluent limits and regulatory procedures to serve our own local needs for our own island ecosystem and culture.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. Further response to the commenter's opinion on environment solutions and current regulations are outside the scope of this response to comments.

**Comments received from Mr. Roy K. Abe, P.E.**

1. Chlordane and Dieldrin (Page 3, Par. A.1) – The proposed effluent limits of 0.030 µg/L (annual average) and 0.74 µg/L (maximum day) for Chlordane and 0.0047 µg/L (annual average) and 0.35 µg/L (maximum day) for Dieldrin should be eliminated. Chlordane and Dieldrin are legacy pesticides that were widely used to treat for ground termites. The use of Chlordane and Dieldrin has been banned in the U.S. for about 25 years. Chlordane and Dieldrin are carcinogens and the lower limits in the WQS are based on possible carcinogenic effects from human consumption of fish containing the pesticide due to bioaccumulation in the food chain.

The Chlordane and Dieldrin found in the effluent is likely due to the pesticide leaching into the sewer system via groundwater infiltration. Past sampling of urban



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streams has shown highest levels of contamination when all the stream flow was from groundwater discharge. Chlordane and Dieldrin contaminated groundwater infiltrating via sewer pipe defects are likely to be primary sources of these chemicals. Since the chemicals are relatively insoluble and binds readily to soil particles, contaminated soil infiltrating through defects in service lateral lines located in pesticide treated soil may be an added source of Chlordane and Dieldrin during heavy rainfall. Cast iron and clay pipe lateral sewers servicing older homes in areas which experience high rainfall, corrosive soils and ground settlement often exhibit holes, separated joints, and other structural defects.

Removal of Chlordane and Dieldrin through conventional treatment processes is difficult and likely to be ineffective. Specialized treatment processes would be very costly and are likely to have no direct public health benefits. Rehabilitation of sewer lines to reduce infiltration and minimize entry of Chlordane and Dieldrin to the sewer system would be a more logical corrective action than implementing treatment to remove the pesticide from the wastewater. The extent of infiltration that can be removed from the collection system, however, is uncertain.

There is no evidence that Chlordane and Dieldrin bioaccumulates in the marine life at or near the outfall. It is highly unlikely that substantial bioaccumulation is occurring in the marine life at the outfall due to strong and varying currents that dilute and transport the trace amounts of the chemicals. Unlike river discharges, which consistently flow in the same general direction, currents in the open ocean constantly change directions in a largely unconfined environment. If bioaccumulation did occur in certain fishes congregating near the outfall, it is unlikely that sufficient amounts of these fishes would be caught and consumed to have a noticeable carcinogenic effect. In the unlikely event that affected fishes were proven to be a health concern, a more cost effective mitigative measure would be to simply discourage fishing near the outfall. Simply delineating the limits of the ZOM with buoys to indicate the location of the outfall would likely discourage fishing in the area. Knowledge of the outfall location would probably be appreciated by the public.

Since Chlordane and Dieldrin may be present in groundwater that discharges to streams and nearshore waters, bioaccumulation in fishes caught in nearshore waters with limited circulation, such as bays and coastal Hawaiian fishponds, would appear to pose a greater health concern. In past studies (see <http://www.epa.gov/region9/water/npdes/pdf/sand-island/SI-appl-appxD-chlordane-dieldrin.pdf>) for Sand Island WWTP basin, the chemicals were found in urban streams at higher levels than the wastewater collection system. The highest level of Dieldrin measured in streams was about twice the highest level found in the wastewater collection system. The studies also indicated that the maximum level of Chlordane found in stream sediments was 600 times the maximum level found in ocean sediments. It was suspected that the Chlordane found in the sediments

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within the Sand Island zone of mixing may have been caused by Chlordane bound to grit and sludge discharged through the outfall between 1976 and 1979 prior to completion of the Sand Island solids handling facilities.

It might be argued that the dispersal of trace amounts of Chlordane and Dieldrin far offshore via sewer infiltration and the outfall could potentially be a benefit by reducing the discharge of the carcinogen in nearshore waters where bioaccumulation is much more likely to occur.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. HAR 11-54, 11-55, the STCP, or applicable federal regulations do not provide an exception for legacy pollutants within permittee's effluent.

2. Enterococci (Page 3, Par. A.1) – The proposed effluent enterococci limits of 6,510 CFU/100 mL (average monthly) and 93,186 CFU/100 mL (maximum daily) should be eliminated. A costly upgrade of the disinfection system to lower enterococci levels should be justified by presenting data showing that water quality violations are occurring and that the violations can be attributed to the discharge. Expenditure of funds for effluent disinfection would provide little measurable benefit and waste funds that could be used for more effective public health protection actions.

Both enterococci concentrations and outfall dilution factors can vary considerable. The assumption that the maximum enterococci concentration and minimum dilution occurs at the same time is overly conservative. Furthermore, there may be enterococci die-off occurring during transmission of the flow from the KRWWTP to the zone just outside the outfall diffuser ports. Exposure of the enterococci in the effluent to rapid changes in osmotic pressure from differences in salinity of the KRWWTP, the Marine Corps Base Hawaii's effluent, and saline seawater would tend to promote some enterococci die-off. It would appear that additional monitoring and statistical analysis of the data to support the proposed enterococci limits is justified.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. The discharge consists of treated sewage which may contain pathogens at elevated concentrations if not properly disinfected, sufficient to impact human health or the beneficial uses of the receiving water. Consistent with 3.3 of EPA's TSD, the regulatory authority should consider additional information discussed under Section 3.2 (i.e., type of industry, type of POTW, type of receiving water and designated uses, etc.) when evaluating reasonable potential. Reasonable potential can be determined without effluent or receiving water exceedances of applicable water

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quality criteria. Because the facility is a POTW, and pathogens are characteristic of treated municipal wastewater, and the beneficial uses of the receiving water include recreation where human contact may occur, reasonable potential for enterococcus has been determined. To ensure the protection of human health, this permit establishes effluent limitations for enterococcus.

HAR, Section 11-54-8(b) establishes water quality objectives for marine recreational waters within 300 meters (1,000 feet) of shore. As discussed in Part E.3.a of the Fact Sheet, the proposed permit establishes receiving water limitations for marine recreational waters within 300 meters (1,000 feet) from shore based on State regulations contained in HAR, Chapter 11-54. Federal regulations at 40 CFR 131.41(c)(2) establish water quality standards for bacteria in marine waters beyond 300 meters from shore, based on CWA Section 304(a). 40 CFR 122.44(d)(1)(vi)(B) states that where a State has not established a water quality criterion for a specific pollutant with reasonable potential, the permitting authority must establish effluent limitations on a case-by-case basis, using EPA's water quality criteria published under Section 304(a) of the CWA. Since Outfall Serial No. 001 is beyond 300 meters (1,000 feet) off shore, there is no applicable State water quality objective for the discharge, and EPA's criteria for enterococcus specified in 40 CFR 131.41 is applicable.

As described in the fact sheet, the use of a minimum initial dilution of 185:1 was used to calculate the proposed effluent limitations for enterococcus. Although human contact with the receiving water may be infrequent, human contact within the zone of mixing may occur, thus for the protection of human health due to the potential for acute illness from pathogens the initial dilution was determined to be appropriate. The use of the initial dilution is intended to be protective of water quality standards, beneficial uses, and human health. Human health may be impacted from short term exposure to elevated concentrations of pathogens, thus the provided dilution must be conservative to account for all reasonable discharge scenarios. Further, the initial dilution used to calculate the proposed effluent limitation currently represents the only known dilution for the outfall.

Currently, the "simple ban of recreational activities in the vicinity of the outfall" is not a viable option, and results in an immediate impact on the beneficial uses of the receiving water, which include recreation.

3. Ammonia (Page 4, Par. A.1) – The proposed ammonia limit of 10,800 µg/L (single sample maximum) is unreasonable and should be eliminated. Continued receiving water monitoring should be adequate to detect and evaluate adverse impacts from the discharge.

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The use of a single sample maximum limit is not consistent with the intent and basis of the WQS. The basis of the standards is explained in the report, "Water Quality Program for Oahu with Special Emphasis on Waste Disposal, Final Report, Work Area 4, Water Quality Standards and Criteria," City and County of Honolulu, April 1972, prepared jointly by Engineering Science, Inc.; Sunn, Low Tom and Hara, Inc.; and Dillingham Corporation. An excerpt from this report is presented in Attachment No.1. The WQS clearly recognizes that measured water quality parameters will vary due to many factors and that high values will occur periodically.

Another important document that addresses the basis of the WQS is the 208 Plan report, "An Ecosystem Approach to Water Quality Standards, Report of the Technical Committee on Water Quality Standards," December 1, 1977, prepared by Department of Health, State of Hawaii. Relevant excerpts from the report are presented in Attachment No.2. The report recommends obtaining sufficient samples taken over a year to be 95 percent confident that the measured geometric mean is within about 20 percent of the true geometric mean. The Fact Sheet does not discuss the adequacy of the data in meeting this confidence level.

Compliance with WQS and the need for additional treatment should be based on long term trends as well as evidence of adverse impacts. The Fact Sheet provides no evidence of adverse water quality or ecosystem impacts.

Due to development in the region, changes to the ambient water quality and background constituent levels are possible. The WQS was based on relatively small sampling data set that was obtained over 40 years ago. Comprehensive collection and analysis of new water quality data is long overdue. The WQS limits and pollution control strategies must be periodically reevaluated to include consideration of possible changes in background levels and the causes of the changes. There is a clear need to examine both the original data and current water quality conditions for the control and ZOM stations to evaluate whether any water quality degradation can be attributed to the outfall discharge. If water quality is being degraded by stormwater, pollution control funding should be focused on improving stormwater quality.

It is imperative to understand that our marine outfalls, current structure, bathymetry, and receiving water inhabitants and ecosystems differ from what is encountered in the continental U.S. The WQS are based monitoring and investigations conducted in the early 1970's as part of the previously mentioned Water Quality Program for Oahu. The deep ocean outfalls are designed to meet the WQS, and together with other water quality programs, have proven to be effective in protecting public health and the environment over the many decades since the WQS have been implemented.

Determinations of non-compliance and justification for any additional treatment must be based on analyses that are consistent with the statistical basis and intent of the

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WQS, which clearly recognizes that conditions can vary significantly in the natural environment. While application of standard accepted procedures used elsewhere may facilitate development of permit limits, application of a statistically invalid approach would not be beneficial to the public or the environment.

Removing nutrients as well as other constituents when it is not necessary is actually detrimental to the environment and is a heavy financial burden. Nutrient removal processes require significant additional infrastructure, funding, and expenditure of energy. Both capital and annual operating costs associated with new nutrient removal process would be significant. These funds could clearly be used for more effective environmental protection and enhancement projects.

Increased energy use would result in increased production of green house gases, which has grown to be a significant environmental concern. Since the environmental benefits would be negligible, the funds for nutrient removal would essentially be spent to harm the environment. There is clearly a dire need to revise and update the water pollution regulations to consider impacts on air quality and long-term sustainability.

**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. Further, as previously discussed in this response to comments, the effluent limitations for ammonia nitrogen is based on estimated current treatment performance, and costly facility upgrades are not expected to be necessary for the Permittee to comply. Applicable effluent limitations for ammonia nitrogen have been included in the proposed permit based on the requirements and HAR 11-54 and 11-55.

The fact sheet provides a comparison of annual geometric means to applicable water quality standards. Annual geometric means represent a reasonable period to observed season variations within the receiving water, and determine negative impacts on the receiving water (exceeding water quality standards at the edge of the ZOM). Comments regarding the water quality standards are outside the scope of this response to comments, and are appropriate during revisions of the water quality standards.

The use of a single sample maximum in the proposed permit is based on observed facility performance, and is being applied to maintain the current treatment performance demonstrated by the Permittee over the last several years to minimize the potential for additional exceedances of water quality standards at the edge of the ZOM. Because an applicable dilution is not currently known for the edge of the ZOM, water quality-based effluent limitations using a dilution and water quality criteria

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cannot be calculated. A requirement to evaluate dilution and assimilative capacity has been established in the permit, and may be used during future permitting efforts to calculate appropriate end-of-pipe effluent limitations. Until that information is available, maintaining current treatment capabilities, and evaluating compliance at the edge of the ZOM is reasonable to protect water quality and implement water quality standards without establishing direct end-of-pipe effluent limitations for ZOM parameters without dilution (since one is not known), or initial dilution (which may be overly stringent at the edge of the ZOM).

4. Nitrate+Nitrite Nitrogen (page 4, Par. A.1) – The proposed nitrate + nitrite nitrogen limit of 15,000 ug/L (single sample maximum) is also unreasonable and not beneficial to the environment. Upgrading treatment to meet this limit potentially requires a tremendous capital outlay and will not result in any benefit to the environment. There is no evidence that nitrate + nitrite nitrogen discharged through the outfall has any adverse impacts on the marine environment. Financial and adverse environmental impacts and reasons for eliminating the proposed limit discussed above for ammonia similarly apply for nitrate + nitrite nitrogen

A dilution factor for the ZOM should be determined and evaluated Establishment of unreasonable and unjustified effluent limits that could result in tens of millions of dollars in additional capital and operating costs due to the absence of dilution factor calculations is unconscionable. The need to meet a stringent nitrogen limit such as the one being proposed will cause wastewater treatment costs to escalate significantly. The KRWWTTP uses a trickling filter/solids contact process that probably cannot be economical modified to meet the proposed limit.

The primary purpose of limiting nitrate + nitrite nitrogen in the receiving water is to curtail excessive algal growth. There is no evidence of excessive algal growth caused by the discharge from the outfall. It should be noted that algal blooms, instead, have occurred at the mouths of Windward Oahu streams as a result of nutrients in stormwater runoff. If any funds are to be expended, they should be directed to improving stormwater quality, where at least some benefits may be realized.

Attachment No.3 provides a brief summary of marine ecosystem monitoring work performed by University of Hawaii researchers. Although the summary was prepared in 2000, it provides a good synopsis of the intensive biological monitoring that has been performed and the lack of adverse impacts. Monitoring to evaluate compliance with WQS limits is helpful, but these in-depth studies present a more accurate picture of actual impacts, or in this case, the absence of impacts. Hawaii's very stringent WQS were focused on protecting sensitive tropical reef systems and the results of extensive monitoring and research work verifies that the deep ocean effluent discharges are not contributing to degradation of the sensitive ecosystems.

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**Response:** DOH is obligated to implement applicable water quality standards within NPDES permits for parameters for which the Permittee has demonstrated reasonable potential to cause or contribute to an exceedance of water quality criteria. Further, as previously discussed in this response to comments regarding ammonia nitrogen, the effluent limitations for nitrate + nitrite are based on estimated current treatment performance, and costly facility upgrades are not expected to be necessary for the Permittee to comply. Applicable effluent limitations for nitrate + nitrite have been included in the proposed permit based on the requirements and HAR 11-54 and 11-55.

The use of a single sample maximum in the proposed permit is based on observed facility performance, and is being applied to maintain the current treatment performance demonstrated by the Permittee over the last several years to minimize the potential for additional exceedances of water quality standards at the edge of the ZOM. Because an applicable dilution is not currently known for the edge of the ZOM, water quality-based effluent limitations using a dilution and water quality criteria cannot be calculated. It is the responsibility of the Permittee to provide all relevant information during the permitting process. A requirement to evaluate dilution and assimilative capacity has been established in the permit, and may be used during future permitting efforts to calculate appropriate end-of-pipe effluent limitations. Until that information is available, maintaining current treatment capabilities, and evaluating compliance at the edge of the ZOM is reasonable to protect water quality and implement water quality standards without establishing direct end-of-pipe effluent limitations for ZOM parameters without dilution (since one is not known), or initial dilution (which may be overly stringent at the edge of the ZOM).

5. **Concluding Statements** – It is recommended that a comprehensive water quality monitoring program be implemented to obtain updated water quality data. This could serve as the basis for preparing a much needed update to the WQS and also facilitate evaluation and verification of impacts from the various outfalls and nonpoint sources. The WQS should be revised to include detailed information on appropriate statistical analyses procedures to be used in analyzing monitoring data to ensure that the data is properly interpreted.

There are significant consequences of imposing excessively stringent effluent limits without strong justification and comprehensive analyses of pollutant sources, water quality data, and ecosystem impacts. It will be difficult to relax the limits in the future despite subsequent availability of supporting data due to the anti-backsliding provisions. Furthermore, unreasonable effluent limits will only lead to an appeal and possible litigation that will further consume the limited manpower and financial resources of the stakeholders. It would be in the best interest of the stakeholders

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and the environment to defer establishment of the new effluent limits discussed above during this permit cycle.

I would urge the permit writers to keep an open mind, and take a scientific and common sense approach to developing effluent limits for the KRWWTTP and other treatment plants throughout the state. Please allow our utility agencies to direct limited financial resources to pollution and public health enhancement projects that will result in measurable benefits.

**Response:** Comment acknowledged.

**Comments received from Mr. Lee Mansfield, P.E.**

I wish to submit these comments as a concerned citizen and tax payer residing in the Kailua community. I am a licensed professional chemical engineer in the State of Hawaii with 25 years of consulting experience in the area of water and wastewater treatment and I have 12 years of managing the operations of a 5.2 MGD wastewater treatment plant on the island of Oahu.

My educational background includes a B.S. degree in chemical engineering from Ohio University and a M.S. degree in chemical engineering from Case Western University. My area of expertise is plant design and operations. In my career, I have designed three major wastewater treatment plants, including the secondary plant serving the Kailua and Kaneohe communities.

The technical and scientific concerns with the proposed changes have been very well presented in the comments prepared by Dr. James Kumagai and Roy Abe. I share their views and concur with their recommendations. In addition to these, I wish to offer the following:

The proposed limits for nutrients, Chlordane and Dieldrin will require a very major investment in plant upgrades and a significant increase in operational costs is a fact that is certainly not in dispute. Moreover, these upgrades will result in significant environmental impacts of their own, such as increased solids disposal and the production of greenhouse gas resulting from the generation of electricity needed for the additional, or expanded, plant processes. I feel strongly that before such standards are promulgated, a detailed cost-benefit study be completed. We all must realize that resources are limited and to allocate capital and incur significant ongoing expenses without producing a benefit commiserate with the investment would be a grievous error. Only by the completion of such a study can one rest assured that resources will be allocated appropriately to address real environmental issues and produce tangible results of value to our community.



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In my lifetime and throughout my career, I have seen the Clean Water Act bring real improvements to the environment, such as the dramatic improvement of water quality in our Great Lakes, Honolulu Harbor, and Kaneohe Bay. Only through the proper allocation of our limited resources will we be able to continue to improve our environment and as such respect and honor the spirit of the Clean Water Act.

**Response:** Please see responses to comments prepared by Dr. James Kumagai and Mr. Roy Abe above.



NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

02024PKP.14

February 14, 2014

Ms. Lori M. K. Kahikina, P.E.  
Director  
Department of Environmental Services  
City and County of Honolulu  
1000 Uluohia Street, Suite 308  
Kapolei, Hawaii 96707

Dear Ms. <sup>Lori</sup>~~Kahikina~~:

**Subject: National Pollutant Discharge Elimination System (NPDES) Permit for  
Kailua Regional Wastewater Treatment Plant  
Permit No. HI 0021296**

Based on your letter, dated January 28, 2014, the Department of Health, Clean Water Branch (CWB) hereby withdraws the NPDES permit for the Kailua Regional Wastewater Treatment Plant issued on January 16, 2014. Enclosed is the revised NPDES Final Permit. All references to nearshore monitoring have been removed. Pages 16, 19, and 37 were affected by the revisions. Please note that the effective date of the enclosed permit is March 16, 2014.

Should you have any questions, please contact Ms. Kris Poentis of the Engineering Section, CWB, at 586-4309.

Sincerely,

A handwritten signature in cursive script, appearing to read "Stuart Yamada".

STUART YAMADA, P.E., CHIEF  
Environmental Management Division

KP:tg

Enclosure: NPDES Final Permit

- c: Water Division (WTR-5), CWA Standards and Permits Office, EPA, Region 9  
(w/ encl.) [via email [sablade.elizabeth@epa.gov](mailto:sablade.elizabeth@epa.gov) only]  
Mr. Cleveland Jaramilla, CCH-DES (w/ encl.) [via email [cjaramilla@honolulu.gov](mailto:cjaramilla@honolulu.gov) only]  
Mr. Bryan Wienand, CCH-DES (w/ encl.) [via email [bwienand@honolulu.gov](mailto:bwienand@honolulu.gov) only]

EXHIBIT B

PERMIT NO. HI 0021296

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "Act"); Hawaii Revised Statutes (HRS), Chapter 342D; and Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55, Department of Health (DOH), State of Hawaii,

**CITY AND COUNTY OF HONOLULU  
DEPARTMENT OF ENVIRONMENTAL SERVICES**

(hereinafter PERMITTEE),

is authorized to discharge treated wastewater to the receiving waters named Pacific Ocean through Outfall Serial No. 001 at Latitude 21°27'32"N and Longitude 157°42'56"W,

from its Kailua Regional Wastewater Treatment Plant located at 95 Kaneohe Bay Drive, Kailua, Hawaii 96734

in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein, and in the DOH "Standard NPDES Permit Conditions", that is available on the DOH, Clean Water Branch (CWB) website at:

<http://health.hawaii.gov/cwb/files/2013/05/StandardNpdesPermitConditions.pdf>.

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2013, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit, including the Zone of Mixing, will become effective on **March 16, 2014.**

This permit, including the Zone of Mixing, and the authorization to discharge will expire at midnight, **February 13, 2019.**

Signed this 14th day of February, 2014.

  
\_\_\_\_\_  
(For) Director of Health

**FINAL PERMIT  
February 14, 2014**

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**PART A**  
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**Page 3**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge treated wastewater from Outfall Serial No. 001. The discharge shall be limited and monitored as specified below.

Effluent Characteristics	Discharge Limitations <sup>1</sup>				Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Units	Measurement Frequency	Sample Type
Flow	2	2	2	MGD	Continuous/ Estimate <sup>3</sup>	—
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	30	45	2	mg/L	5/Week <sup>3</sup>	24-Hour Composite
	3,178	4,766	2	lbs/day		
	The average monthly percent removal shall not be less than 85 percent					
Total Suspended Solids (TSS)	30	45	2	mg/L	5/Week <sup>3</sup>	24-Hour Composite
	3,178	4,766	2	lbs/day		
	The average monthly percent removal shall not be less than 85 percent					

MGD – Million Gallons per Day

<sup>1</sup> Compliance with mass-based effluent limitations shall be determined using the following formula and a design flow of 12.7 MGD:  $\text{lbs/day} = 8.34 * \text{concentration (mg/L)} * \text{flow (MGD)}$

<sup>2</sup> The Permittee shall monitor and report the test results.

<sup>3</sup> The Permittee shall measure both influent and effluent flow. Both influent and effluent samples shall be taken for BOD and TSS, as specified in Part A.2 of this Permit.

Effluent Characteristics	Discharge Limitations <sup>1</sup>				Monitoring Requirements	
	Average Annual	Average Monthly	Maximum Daily	Units	Measurement Frequency	Sample Type
pH	Not less than 6.0 and not greater than 9.0			s.u.	5/Week	Grab
Oil and Grease	--	--	<sup>9</sup>	mg/L	1/Month <sup>4</sup>	Grab
	--	--	<sup>9</sup>	lbs/day		
Chronic Toxicity	--	--	Pass <sup>3</sup>	—	1/Month	24-Hour Composite
Chlordane	0.030	--	0.74	µg/L	1/Month <sup>4</sup>	24-Hour Composite
	0.0038	--	0.094	lbs/day		
Dieldrin	0.0047	--	0.35	µg/L	1/Month <sup>4</sup>	24-Hour Composite
	0.00060	--	0.045	lbs/day		
Enterococci	--	6,510 <sup>5</sup>	93,186 <sup>6</sup>	CFU/100 mL	5/Month <sup>7</sup>	Grab <sup>8</sup>
Temperature	--	--	<sup>9</sup>	°C	1/Week	Grab
Total Nitrogen	--	--	<sup>9,10</sup>	mg/L	1/Month	24-Hour Composite
	--	--	<sup>9,10</sup>	lbs/day		

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Effluent Characteristics	Discharge Limitations <sup>1</sup>				Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Units	Measurement Frequency	Sample Type
Total Phosphorus	--	--	8,10	mg/L	1/Month	24-Hour Composite
	--	--	9,10	lbs/day		
Turbidity	--	--	9,10	NTU	1/Month	Grab
Remaining Pollutants <sup>11</sup>	--	--	9	µg/l	1/Year	Grab

MGD – Million Gallons per Day

N/A – Not Applicable

<sup>1</sup> Compliance with mass-based effluent limitations shall be determined using the following formula:

$$\text{lbs/day} = 8.34 * \text{concentration (mg/L)} * \text{flow (MGD)}$$

<sup>2</sup> The Permittee shall monitor and report the parameter results.

<sup>3</sup> "Pass", as described in Section B.3 of this Permit.

<sup>4</sup> Both influent and effluent samples shall be taken, as specified in Parts A.2 and A.3 of this Permit.

<sup>5</sup> Compliance based on the monthly geometric mean.

<sup>6</sup> Compliance based on the single sample maximum.

<sup>7</sup> Report enterococci as a geometric mean and as a single sample.

<sup>8</sup> Enterococci samples shall be analyzed using Method 1600, *Membrane Filter Test Method for Enterococci in Water* (EPA 821-R-09-016, December, 2009).

<sup>9</sup> The Permittee shall monitor and report the parameter analytical test results.

<sup>10</sup> Both influent and effluent samples shall be taken as specified in Part A.4 of this Permit.

<sup>11</sup> The Permittee shall perform annual monitoring, based on a calendar year, on all remaining pollutants listed in Appendix 1 of this permit, except those already specified in the table above. The use of grab samples may be used, although 24-hour composite samples may be used if indicated in Appendix 1.

Parameter	Effluent Limitations			Monitoring Requirements	
	Geometric Mean <sup>1</sup>	Single Sample Maximum	Units	Measurement Frequency	Sample Type
Ammonia	--	14,700	µg/L	1/Month <sup>2</sup>	24-Hour Composite
Nitrogen	--	1,870	lbs/day <sup>3</sup>		
Nitrate + Nitrite	--	15,000	µg/L	1/Month <sup>2</sup>	24-Hour Composite
Nitrogen	--	1,908	lbs/day <sup>3</sup>		

<sup>1</sup> To be evaluated on a calendar year.

<sup>2</sup> Both influent and effluent samples shall be taken, as specified in Parts A.2 and A.4 of this Permit.

<sup>3</sup> Compliance with mass-based effluent limitations shall be determined using the following formula:

$$\text{lbs/day} = 8.34 * \text{concentration (mg/L)} * \text{flow (MGD)}$$

2. For individual discharge parameters monitored in the influent and effluent, monitoring shall be conducted on the same day.

3. All influent and effluent monitoring shall be arranged so that each day of the calendar week is represented once per month (i.e., for discharge parameters monitoring five (5) calendar days per week or three (3) calendar days per week), or once per two (2) months (i.e., for discharge parameters monitored once per week).

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4. Effluent monitoring for total nitrogen, total phosphorus, ammonia nitrogen, nitrate plus nitrite nitrogen, and turbidity shall be conducted on the same day that receiving water monitoring for said pollutants is conducted.
5. Samples taken in compliance with the monitoring requirements in Part A of this permit shall be taken at the following locations:
  - a. Influent Monitoring, Monitoring Location INF: All influent samples shall be taken downstream of any additions to the trunk sewer, upstream of any in-plant return flows, and prior to treatment where representative samples of the influent can be obtained.
  - b. Effluent Monitoring Location, Outfall Serial No. 001: All effluent samples shall be taken downstream from any additions to the facility after all treatment processes, and prior to mixing with effluent from the Marine Corps Base Hawaii Kaneohe Bay Water Reclamation Facility and the receiving waters, where representative samples of the final effluent can be obtained.



## B. WHOLE-EFFLUENT TOXICITY REQUIREMENTS

### 1. Monitoring Frequency

The Permittee shall conduct monthly chronic toxicity tests on flow weighted 24-hour composite effluent samples, in accordance with the procedures outlined below.

For whole effluent toxicity tests using *Tripneustes gratilla*, if the Permittee experiences difficulty in obtaining gametes or has unacceptable control performance while conducting the sea urchin sperm/fertilization bioassay during a monitoring period, the Permittee shall document its efforts, communicate all attempts to the Director, and report all attempts on the DMR for that monitoring period.

It shall not be considered a non-compliance of the whole effluent toxicity requirements if it can be proven to the Director's satisfaction that the inability in obtaining gametes for testing was due to circumstances beyond the Permittee's control.

### 2. Test Species and Methods

The Permittee shall conduct chronic toxicity testing on *T. gratilla* using Tropical Collector Urchin, *Tripneustes gratilla*, Fertilization Test Method. April, 2012. Amy Wagner, U.S. EPA, Region 9 Laboratory, Richmond, CA and Diane Nacci, U.S. EPA, Office of Research and Development National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, RI (EPA/600/R-12/022) and follow Quality Assurance procedures as described in the test methods manual Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995).

### 3. Chronic WET Permit Limit

All State waters shall be free from chronic toxicity as measured using the toxicity tests listed in HAR, Section 11-54-10, or other methods specified by the Director. For this discharge, the determination of "Pass" or "Fail" from a single-effluent concentration chronic toxicity test at the applicable IWC using the Test of Significant Toxicity (TST) approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010). For any one chronic toxicity test, the chronic WET permit limit that must be met is rejection of the null hypothesis ( $H_0$ ):

IWC (0.54 percent effluent) mean response  $\leq 0.75 \times$  Control mean response.

- a. For Outfall Serial No. 001, an IWC of 0.54% shall be used.

A test result that rejects this null hypothesis is reported as "Pass" on the DMR form. A test result that does not reject this null hypothesis is reported as "Fail" on the DMR form. To calculate either "Pass" or "Fail", the permittee shall follow the instructions in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, Appendix A. If a test result is reported as "Fail", then the permittee shall follow Part B.6 (Accelerated Toxicity Testing and TRE/TIE Process) of this permit.

**4. Quality Assurance**

- a. Quality assurance measures, instructions, and other recommendations and requirements are found in the chronic test methods manual previously referenced. Additional requirements are specified below.
- b. This discharge is subject to a determination of "Pass" or "Fail" from a single-effluent concentration chronic toxicity test at the IWC (for statistical flowchart and procedures, see National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, Appendix A, Figure A-1). During Step 6 of Appendix A, the Permittee shall use an alpha value of 0.05 for *T. gratilla*. The chronic IWC for Outfall Serial No. 001 is 0.54 percent effluent.
- c. Effluent dilution water and control water shall be receiving water or lab water, as described in the test methods manual Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used.
- d. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).
- e. All multi-concentration reference toxicant test results must be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found in Method Guidance and

**Recommendations for Whole Effluent Toxicity (WET) Testing  
(40 CFR 136) (EPA/821/B-00/004, 2000).**

- f. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the Permittee shall re-sample and re-test within 14 calendar days.
- g. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by the Director.

**5. Initial Investigation TRE Work Plan**

Within 90 calendar days of the permit effective date, the Permittee shall prepare and submit to the Director a copy of its Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan (1-2 pages) for review. This plan shall include steps the Permittee intends to follow if toxicity is measured above the chronic WET permit limit and shall include the following, at minimum:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
- c. An indication of who would conduct the TIEs if a Toxicity Identification Evaluation (TIE) is necessary (i.e., an in-house expert or outside contractor).
- d. A flow chart of the workplan steps.

**6. Accelerated Toxicity Testing and TRE/TIE Process**

- a. If the chronic WET permit limitation is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the Permittee shall conduct one additional toxicity test using the same species and test method. This toxicity test shall begin within 14 calendar days of receipt of a test result exceeding the chronic WET permit limit. If the additional toxicity test does not exceed the chronic WET permit limitation, then the Permittee may return to the regular testing frequency.

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- b. If the chronic WET permit limit is exceeded and the source of toxicity is not known, then the Permittee shall conduct six (6) additional toxicity tests using the same species and test method, approximately every two (2) weeks, over a 12 week period. This testing shall begin within 14 calendar days of receipt of a test result exceeding the chronic WET permit limit. If none of the additional toxicity tests exceed the chronic WET permit limit, then the Permittee may return to the regular testing frequency.
- c. If one (1) of the additional toxicity tests (in paragraphs Parts B.6.a or B.6.b) exceeds the chronic WET permit limitation, then, within 14 calendar days of receipt of this test result, the Permittee shall initiate a TRE using, according to the type of treatment facility, EPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/833/B-99/002, 1999) or EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989). In conjunction, the Permittee shall develop and implement a Detailed TRE Work Plan which shall include the following: further actions undertaken by the Permittee to investigate, identify, and correct the causes of toxicity; actions the Permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions.
- d. The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA manuals: Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003, 1991); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996). Further, the Permittee may be required by the Director to initiate a TIE as part of a TRE.
- e. Prior to conducting a TIE, the Permittee shall submit a TIE plan to the Director. The TIE plan, at a minimum shall:
  - (1) Discuss previous TIE efforts and other available data useful in developing TIE procedures

- (2) Evaluate available operations and effluent data
- (3) Identify and discuss site-specific considerations for the TIE effort
- (4) Include a comprehensive quality control program
- (5) Establish a monitoring program
- (6) Identify test methods and statistical methods to be used for the TIE effort
- (7) Identify the TIE procedures for the baseline toxicity tests and TIE manipulations
- (8) Discuss additional potential analysis that might be helpful in evaluating the causative toxicant(s) or appropriate treatability, such as pollutant scans for toxic effluent
- (9) Discuss the personnel and their qualifications for the team conducting the TIE results interpretation
- (10) Include follow-up procedures for use if the TIE is inconclusive.

The Permittee shall incorporate all comments received from the Director within 14 days of the TIE plan submittal. Within 14 days of the TIE plan submittal, the Permittee shall commence with the TIE.

**7. Reporting of Chronic Toxicity Monitoring Results**

- a. The Permittee shall report on the DMR for the month in which the toxicity test was conducted: "Pass" or "Fail" (based on the Welch's t-test result), the calculated "percent mean response at IWC", where:

$$\% \text{ Effect at IWC} = ((\text{Mean Control Response} - \text{Mean Response at IWC}) \div (\text{Mean Control Response})) \times 100,$$

and to assist in evaluation of the test result, the standard deviations for the IWC mean response and the Control mean response.

- b. The Permittee shall submit a full laboratory report for all toxicity testing as an attachment to the DMR for the month in which the toxicity test was conducted. The laboratory report shall contain: the toxicity test results;

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the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations.

- c. The Permittee shall notify the Director in writing within five (5) business days of exceedance of the chronic WET permit limitation. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

**8. Permit Reopener for Chronic Toxicity**

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include new effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

**C. WATER QUALITY CRITERIA**

**1. Specific Water Quality Criteria for Recreational Waters**

- a. The discharge of treated wastewater through Outfall Serial No. 001 shall not cause the following water quality criteria to be violated in marine recreational water:

- (1) Within 300 meters (1,000 feet) of the shoreline, including natural public bathing or wading areas, enterococci content shall not exceed a geometric mean of 35 CFU per 100 milliliters in not less than five (5) samples which shall be equally spaced to cover a period between 25 and 30 calendar days. No single sample shall exceed the single sample maximum of 104 CFU per 100 milliliters or the site-specific one-sided 75 percent confidence level. Marine recreational waters along sections of the coastline where enterococci content does not exceed the standard, as shown by the geometric mean test described above, shall not be lowered in quality.
- (2) At locations where sampling is less frequent than five samples per 25 to 30 calendar days, no single sample shall exceed the single sample maximum nor shall the geometric mean of these samples taken during the 30 calendar day period exceed 35 CFU per 100 milliliters.
- (3) Raw or inadequately treated sewage, sewage for which the degree of treatment is unknown, or other pollutants of public health significance, as determined by the Director, shall not be present in natural public swimming, bathing, or wading areas. Warning signs shall be posted where human sewage has been identified as temporarily contributing to the enterococcus count.

- b. Compliance with the water quality criteria listed in Part C.1, above, shall be measured at shoreline monitoring stations as described in Part E of this permit.

**2. Basic Water Quality Criteria Applicable to All Waters:**

- a. The discharge shall comply with applicable water quality standards for receiving waters adopted by the DOH under HAR, Chapter 11-54, Water Quality Standards, effective October 21, 2012.
- b. The discharge shall not interfere with the attainment or maintenance of that water quality which assures protection of public water supplies and the

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protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife and allows recreational activities in and on the water.

- c. The discharge of treated wastewater through Outfall Serial No. 001 shall not cause the following water quality criteria to be violated:
- (1) All State waters shall be free from pollutants in concentrations which exceed the acute standards listed in HAR 11-54-4(b)(3). All State waters shall also be free from acute toxicity as measured using the toxicity tests listed in HAR 11-54-11, or other methods specified by the Director.
  - (2) All State waters shall be free from pollutants in concentrations which on average during any 24 hour period exceed the chronic standards listed in HAR 11-54(b)(3). All State waters shall also be free from chronic toxicity as measured using the toxicity tests listed in HAR 11-54-10, or other methods specified by the Director.
  - (3) All State waters shall be free from pollutants in concentrations which, on average during any 30-day period, exceed the "fish consumption" standards for non-carcinogens in HAR 11-54-4(b)(3). All State waters shall also be free from pollutants in concentrations, which on average during any 12-month period, exceed the "fish consumption" standards for pollutants identified as carcinogens in HAR 11-54-4-(b)(3).
  - (4) All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, include:
    - i. Material that will settle to form objectionable sludge or bottom deposits;
    - ii. Floating debris, oil, grease, scum, or other floating materials;
    - iii. Substances in amounts sufficient to produce taste in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity or other conditions in the receiving waters;
    - iv. High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;



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- v. Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life; and
- vi. Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands.

**D. ZONE OF MIXING LIMITATIONS**

**1. Zone of Mixing (ZOM)**

The ZOM shall be established for the assimilation of secondary treated wastewater at a design flow of 15.25 MGD. The ZOM shall consist of a rectangular prism having a length of 1,960 feet and a width of 1,000 feet. The diffuser is centered on the longitudinal axis of the ZOM. The discharge of treated wastewater through Outfall Serial No. 001 shall not cause the following water quality criteria to be violated in Class A dry open coastal waters beyond the ZOM:

Parameter	Units	Geometric mean not to exceed the given value <sup>1</sup>	Not to exceed the given value more than 10% of the time <sup>1</sup>	Not to exceed the given value more than 2% of the time <sup>1</sup>
Total Nitrogen	µg/L	110.00	180.00	250.00
Ammonia Nitrogen	µg/L	2.00	5.00	9.00
Nitrate Plus Nitrite Nitrogen	µg/L	3.50	10.00	20.00
Total Phosphorus	µg/L	16.00	30.00	45.00
Chlorophyll a	µg/L	0.15	0.50	1.00
Turbidity	NTU	0.20	0.50	1.00
pH	s.u.	Shall not deviate more than 0.5 units from a value of 8.1, except coastal locations where and when freshwater from stream, storm drain, or groundwater discharge may depress the pH to a minimum level of 7.0.		
Temperature	°C	Shall not vary more than one degree Celsius from ambient conditions.		
Dissolved Oxygen	% Saturation	Not less than 75 percent saturation.		
Salinity	ppt	Shall not vary more than 10 percent from natural or seasonal changes considering hydrologic input and oceanographic factors.		

<sup>1</sup> To be evaluated on an annual basis.

The specific water quality criteria set forth in the table above may be exceeded within the boundaries of the ZOM and shall not constitute a violation of this permit. Compliance with the geometric mean shall be evaluated based on a calendar year.

## **E. RECEIVING WATER MONITORING PROGRAM REQUIREMENTS**

The Permittee shall conduct receiving water monitoring at shoreline and offshore stations, as described below.

### **1. Shoreline Water Quality Monitoring**

Shoreline monitoring for enterococci is used to determine compliance with water quality criteria specific for marine recreational waters described in Part C of this permit.

The Permittee shall monitor at the following stations:

<b>Station</b>	<b>Location</b>	<b>Latitude</b>	<b>Longitude</b>
MS1	Fort Hase Beach	21° 26' 40.0" N	157° 44' 10.6" W
MS2	Kapoho Point	21° 25' 30.8" N	157° 44' 24.2" W
MS3	Kailua Beach	21° 23' 54.8" N	157° 43' 38.2" W
MS4	Lanikai Boat Ramp	21° 23' 44.8" N	157° 43' 19.7" W
Kalama Beach	Kalama Beach	21° 24' 20.1" N	157° 44' 19.9" W
North Beach	North Beach	21° 27' 14.4" N	157° 44' 24.0" W
Oneawa Beach	Oneawa Beach	21° 25' 06.0" N	157° 44' 39.3" W

The following water quality parameters shall be sampled:

<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Frequency</b>
Enterococci	CFU/100 mL	Surface Grab	5/Month <sup>1</sup>
Visual Observations	—	Visual	5/Month <sup>1,2</sup>

<sup>1</sup> Samples shall be as equally spaced as possible throughout the calendar month.

<sup>2</sup> Wind direction and speed, weather, and sea condition shall be recorded for each day of sampling. At each station, unusual color, turbidity, odor, or other physical evidence of sewage shall be noted on the log sheet.

Inability to conduct shoreline monitoring due to inclement weather or hazardous conditions which may endanger the lives of the facility's personnel shall not constitute a violation of this permit.

Monitoring results shall be reported in the monthly DMRs. The DMRs submitted shall include monitoring results and probable sources and an explanation of any exceedances.

### **2. Offshore Water Quality Monitoring**

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Offshore water quality monitoring data are used to determine compliance with State water quality standards. Offshore stations shall be located using a global positioning device that allows reoccupation of the station within  $\pm 6$  meters.

The Permittee shall monitor at the following stations:

Station	Latitude	Longitude
M1 (Control Station)	21° 28' 13.4" N	157° 43' 55.9" W
M2	21° 27' 18.4" N	157° 42' 54.9" W
M3	21° 27' 17.0" N	157° 42' 44.1" W
M4	21° 27' 03.3" N	157° 42' 54.7" W
M5	21° 27' 08.7" N	157° 43' 06.2" W
M6 (Control Station)	21° 26' 35.6" N	157° 42' 55.1" W

The following water quality parameters shall be sampled:

Parameter	Units	Sample Type	Monitoring Frequency
Total Nitrogen	$\mu\text{g/L}$	Grab <sup>1</sup>	1/Quarter
Ammonia Nitrogen	$\mu\text{g/L}$	Grab <sup>1</sup>	1/Quarter
Nitrate + Nitrite Nitrogen	$\mu\text{g/L}$	Grab <sup>1</sup>	1/Quarter
Total Phosphorus	$\mu\text{g/L}$	Grab <sup>1</sup>	1/Quarter
Chlorophyll <i>a</i>	$\mu\text{g/L}$	Grab <sup>1</sup>	1/Quarter
Turbidity	NTU	Grab <sup>1</sup>	1/Quarter
pH	s.u.	CDP <sup>2</sup>	1/Quarter
Dissolved Oxygen	mg/L	CDP <sup>2</sup>	1/Quarter
Temperature	°C	CDP <sup>2</sup>	1/Quarter
Salinity	ppt	CDP <sup>2</sup>	1/Quarter

<sup>1</sup> Grab samples shall be collected at each station within 1 meter below the surface, mid-depth, and within 2 meters above the bottom.

<sup>2</sup> A continuous depth profile (CDP) is a plot of depth vs. a water quality parameter. Parameter shall be measured on a CDP basis, from within 1 meter below the surface to within 2 meter above the bottom of the bottom at 1 meter intervals.

Inability to conduct offshore monitoring due to inclement weather or hazardous conditions which may endanger the lives of the facility's personnel shall not constitute a violation of this permit.

Monitoring results shall be reported in monthly DMRs. The DMRs submitted shall include monitoring results and probable sources and an explanation of any exceedances.

**4. Ocean Outfall Monitoring**

At least once during the term of this permit, the Permittee shall inspect the ocean outfall and submit the investigation findings to the Director. The outfall inspection shall include, but not be limited to, an investigation of the structural integrity, operational status, and maintenance needs. The Permittee shall include findings of the inspection to the Director in the annual wastewater pollution prevention report in Part F of this permit for the year the outfall inspection is conducted.

**5. ZOM Dilution Analysis Study**

- a. Within three (3) years of the effective date of this permit, the Permittee shall conduct and submit to DOH a dilution analysis study which identifies minimum and average dilution at the edge of the ZOM (Stations MB-2 through MB-5). In addition, the ZOM Dilution Analysis Study shall verify the presence or absence of assimilative capacity for nitrate+nitrite and ammonia nitrogen based on receiving water data at and beyond the edge of the ZOM.
  - i. Within 180 calendar days of the effective date of this permit, the Permittee shall submit a ZOM Dilution Analysis Study Work Plan to DOH. The Work Plan shall provide a detailed discussion regarding the method by which minimum and average dilution shall be evaluated and specify a time frame for the analysis. In addition, the Work Plan shall include a discussion of the hydraulics of the ZOM, significant variables that impact available dilution within the ZOM, identify data necessary to complete the dilution study, include a plan to acquire necessary data, and identify any known potential challenges to completing the study.

The Permittee shall incorporate all comments from DOH into the Work Plan. Within nine (9) months of the effective date of this permit, the Permittee shall implement the Work Plan with any necessary revisions.

- ii. Within two (2) years of the effective date of this permit, the Permittee shall provide an update to DOH on the status of the dilution analysis and provide any preliminary data and results available at that time.
  - iii. Within three (3) years of the effective date of this permit, the Permittee shall submit a final report to DOH which; summarizes the method and results of the ZOM Dilution Analysis Study, identifies and supports a minimum and annual average dilution at the edge of the ZOM, and

verifies the presence or absence of assimilative capacity for nitrate+nitrite and ammonia nitrogen.

- b. In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include new effluent limitations or permit conditions based on information provided from the ZOM Dilution Analysis Study; or to implement new, revised, or newly interpreted water quality standards applicable to HAR, Chapter 11-54-6, water quality standards.

**6. Annual Receiving Water Monitoring Programs**

The Permittee shall submit an annual receiving water monitoring report by March 31<sup>st</sup> of each year. The annual receiving water monitoring reports shall summarize and discuss monitoring results for the previous year. Reports shall include, at minimum:

- a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).
- b. A description of sampling stations, including differences unique to each station (station location, sediment grain size, distribution of bottom sediment, rocks, and shell litter, calcareous worm tubes, etc.) This ocean bottom information shall be recorded at least once per calendar year.
- c. A record shall be kept of the individual(s) performing sampling or measurements. A description of the sample collection and preservation procedures used in the survey shall be included in the report.
- d. A description of methods used for laboratory analyses. Variations in procedure may be acceptable, but any such changes shall be reported to the EPA and DOH, before implementation. All such variations must be reported with the analytical results.
- e. An in-depth discussion of monitoring results. All tabulations and computations shall be explained.

**F. WASTEWATER POLLUTION PREVENTION PROGRAM**

**1. Annual Report**

The Permittee shall submit an annual report summarizing critical parameters which impact the operations of the facility to the DOH by March 31 of each year, unless otherwise instructed by the DOH. The report shall include, at a minimum, an evaluation of critical parameters, including the following:

- a. Flow;
- b. BOD<sub>5</sub> loading;
- c. TSS loading;
- d. Toxic pollutants or impacts of septic wastes;
- e. Growth potential of the service area;
- f. Impact of new regulations;
- g. Bypasses and overflows;
- h. Effectiveness and condition of the collection system; and,
- i. Treatment capacity based on additional information.

**2. Flow Rate Notification**

The Permittee shall notify the Director and the Regional Administrator in writing not later than 90 days after the 30-day average dry weather discharge flow rate equals or exceeds 75% of the actual treatment capacity of the facility as reported above in Part F.1.i. The report shall include:

- a. Date on which the 30-day average discharge flow rate equals or exceeds 75% of the actual treatment capacity of the facility.
- b. Estimate of when the 30-day average discharge flow rate will equal or exceed the actual treatment capacity of the facility.
- c. Schedule of compliance to provide additional treatment capacity before the 30-day average discharge flow rate equals the actual treatment capacity of the facility.

3. Implementation of the Schedule of Compliance for Flow Rate Notification
- a. The Permittee shall comply with the provisions of the schedule of compliance after approval by the Director.
  - b. The Permittee shall initiate contingency plans to provide additional treatment capacity not later than 90 calendar days following the date on which the 30-day average discharge flow rate equals or exceeds 85% of the actual treatment capacity of the facility as reported in Part F.1.i.
  - c. The Director may grant a special exemption to eliminate the requirement for a contingency plan. The Permittee shall request such exemption in writing and may include the request in the annual report. The Director shall notify the Permittee in writing of his decision.



**G. PRETREATMENT REQUIREMENTS**

1. The Permittee shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions. Where 40 CFR 403 or subsequent revisions place mandatory actions upon the Permittee as Control Authority but do not specify a timetable for completion of the actions, the Permittee shall complete the actions within 6 months from the issuance date of this permit or the effective date of the 40 CFR 403 revisions, whichever comes later. For violations of pretreatment requirements, the Permittee shall be subject to enforcement actions, penalties, fines, and other remedies by the EPA or other appropriate parties, as provided in the CWA. The DOH and EPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements, as provided in the CWA.
2. The Permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate, and effective enforcement actions. The Permittee shall cause nondomestic users subject to the federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
3. The Permittee shall perform the pretreatment functions as required in 40 CFR 403 including, but not limited to:
  - a. Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR 403.8(f)(1);
  - b. Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR 403.5 and 403.6, respectively;
  - c. Implement the pragmatic functions as provided in 40 CFR 403.8(f)(2); and
  - d. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).
4. The Permittee shall submit annually to the DOH and EPA a report describing its pretreatment activities over the previous year. In the event that the Permittee is not in compliance with any conditions or requirements of this permit, then the Permittee shall also include the reasons for noncompliance and state how and when the Permittee shall comply with such conditions and requirements. This annual report shall cover operations from January 1 through December 31, and is due on March 31<sup>st</sup> of the following year. The report shall contain, but not be limited to, the following information:

- a. A summary of analytical results from representative, flow proportioned 24-hour composite sampling of the facility's influent and effluent for those pollutants the EPA has identified under Section 307(a) of the Clean Water Act which are known or suspected to be discharged by nondomestic users. This will consist of wastewater sampling and analysis in accordance with the minimum frequency of analysis stated in Part A of this permit. The Permittee is not required to sample and analyze for asbestos. Sludge monitoring is covered under Part H of this permit. The Permittee shall also provide any influent or effluent monitoring data for nonpriority pollutants which the Permittee believes may be causing or contributing to interference or pass through. Sampling and analysis shall be performed with the techniques prescribed in 40 CFR 136;
- b. A discussion of upset, interference, or pass through incidents, if any, at the treatment plant which the Permittee knows or suspects were caused by nondomestic users of the collection system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken, and, if known, the name and address of the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent interference or pass through;
- c. An updated list of the Permittee's SIUs including their names and addresses, and a list of deletions, additions, and SIU name changes keyed to the previously submitted list. The Permittee shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to the SIU. The list shall also indicate which SIUs are subject to local limitations;
- d. The Permittee shall characterize the compliance status of each SIU by providing a list or table which includes the following information:
  - (1) Name of the SIU;
  - (2) Category, if subject to federal categorical standards;
  - (3) The type of wastewater treatment or control processes in place;
  - (4) The number of samples taken by the Permittee during the year;
  - (5) The number of samples taken by the SIU during the year;

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- (6) For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;
  - (7) A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;
  - (8) Whether the facility is in significant noncompliance as defined in 40 CFR 403.8(f)(2)(vii) at any time during the year; and,
  - (9) Summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action, final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance.
- e. A brief description of any programs the Permittee implements to reduce pollutants from nondomestic users that are not classified as SIUs.
  - f. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;
  - g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and
  - h. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required by 40 CFR 403.8(f)(2)(vii).
  - i. Annual reports shall be submitted to the following agencies:
    - (a) State of Hawaii  
Department of Health  
Environmental Management Division  
Clean Water Branch  
919 Ala Moana Boulevard, Room 301  
Honolulu, HI 96814-4920
    - (b) Regional Pretreatment Coordinator (WTR-5)  
Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

## **H. SLUDGE/BIOSOLIDS REQUIREMENTS**

### **1. Sludge Use/Disposal Requirements**

#### **a. General Conditions and Requirements**

##### **(1) Acceptable Sludge Use/Disposal Practices**

- (a) The Permittee shall dispose of all sludge generated at the facility at a municipal solid waste landfill, at a sludge surface disposal site, by land application, or by transferring the sludge to another party for further treatment, use, or disposal in accordance with all applicable portions of 40 CFR Parts 257, 258, 503, and HAR, Chapters 11-58.1 and 11-62.**
- (b) Storage of sludge for over two years from the time it is generated shall be considered to be surface disposal. The storage site shall meet all the requirements of a surface disposal site under 40 CFR 503 Subpart C and HAR, Chapters 11-58.1 and 11-62. If the Permittee desires to store sludge for longer periods of time prior to final disposal, the Permittee shall submit a written request to the EPA Regional Sludge Coordinator and Director containing the information required under 40 CFR Section 503.20(b).**
- (c) The Permittee shall dispose of sludge containing more than 50 mg/kg of PCBs in accordance with 40 CFR 761.**
- (d) If the Permittee desires to dispose of sludge using a method not listed above, the Permittee shall submit a request for permit modification to EPA Regional Sludge Coordinator and Director 180 calendar days prior to the commencement of the alternate disposal practice.**

##### **(2) Duty to Mitigate**

- (a) The Permittee shall be responsible for ensuring the following:**
  - (i) All sludge produced at its facility is used/disposed of in accordance with 40 CFR Parts 257, 258, 503, and HAR, Chapters 11-58.1 and 11-62, whether the Permittee uses/disposes of the sludge itself or transfers it to another party for further treatment, use, or disposal.**

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- (ii) Subsequent preparers, applicers, or disposers of the sludge are informed of the requirements under 40 CFR Parts 257, 258, 503, and HAR, Chapters 11-58.1 and 11-62.
  - (iii) Sludge is not allowed to enter State waters, or to contaminate an underground drinking water source.
  - (iv) Sludge treatment, storage, use, and disposal do not create a public nuisance.
  - (v) Haulers who ship non-Class A sludge off-site for additional treatment, use, or disposal take all necessary measures to keep sludge contained.
- (b) The Permittee shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
- (3) Other Conditions
- (a) The Director may promptly modify or revoke and reissue this permit to incorporate any applicable standard for sewage sludge use or disposal promulgated under the Act Section 405(d), or adopted under HRS, Chapter 342D, or HAR, Chapter 11-62, if the standard is more stringent than the standard in this permit or covers a pollutant or practice not covered in this permit.
  - (b) The sludge requirements in this part are supplemental to the other conditions of this permit. In the event of a conflict, those requirements more protective of the environment shall apply.
  - (c) The requirements in 40 CFR 503 are enforceable by the EPA independently of being included in this permit.

**b. Sludge Limitations and Monitoring Requirements**

- (1) Sludge shall be limited and monitored by the Permittee as specified below:

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**(a) Sludge Disposed of in Municipal Solid Waste Landfills**

Monitoring Parameter/Test Procedures	Limitation	Monitoring Frequency
Paint Filter Test (EPA Method 9095B)	No "Free Liquids" <sup>1</sup>	1/Year
Toxicity Characteristic Leaching Procedure (TCLP) Test <sup>2</sup>	<sup>2</sup>	1/Year
Priority Pollutants <sup>3</sup>	N/A	1/Year <sup>4</sup>

N/A = Not Applicable

<sup>1</sup> "Free Liquids" as defined in EPA Method 9095.

<sup>2</sup> The parameters to be tested by the TCLP test and their limitations are specified in 40 CFR 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic.

<sup>3</sup> Priority pollutants are listed under the Act Section 307(a).

<sup>4</sup> The Permittee shall test for priority pollutants more frequently if required under the pretreatment program.

**(b) Sludge Disposed of in Surface Disposal Sites (Sludge-only Landfill or Disposal on Land Not for the Purpose of Improving Plant Growth)**

Parameter	Limitation (Mg/kg)							Monitoring Frequency
	0<25 m	25<50 m	50<75 m	75<100 m	100<125 m	125<150 m	>150 m	
Arsenic <sup>1</sup>	30	34	39	46	53	62	73	<sup>2</sup>
Chromium <sup>1</sup>	200	220	260	300	360	450	600	<sup>2</sup>
Nickel <sup>1</sup>	210	240	270	320	390	420	420	<sup>2</sup>
TCLP Test <sup>3</sup>	<sup>3</sup>							1/Year
Priority Pollutants <sup>4</sup>	N/A							1/Year <sup>5</sup>

m = Meter

N/A = Not Applicable

<sup>1</sup> The Permittee shall monitor for this parameter only if sludge is disposed of in a unit with no liner and leachate system. Limitations are based on the distance (meters) from the active sludge unit boundary to the nearest property line.

<sup>2</sup> Monitoring frequency shall be determined by the following table:

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<b>Annual Production, Dry Weight (Metric Tons/Year)</b>	<b>Monitoring Frequency</b>
0 - 290	1/Year (November)
290 - 1,500	1/Quarter (Feb/May/Aug/Dec)
1,500 - 15,000	6/Year (Feb/Apr/Jun/Aug/Oct/Dec)
>15,000	1/Month

- <sup>3</sup> The parameters to be tested by the TCLP test and their limitations are specified in 40 CFR 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic.
- <sup>4</sup> Priority pollutants are listed under the CWA Section 307(a).
- <sup>5</sup> The Permittee shall test for priority pollutants more frequently if required under the pretreatment program.

(c) **Sludge that is Land-Applied (Added to Soil for the Purpose of Improving Plant Growth)**

The Permittee shall obtain and comply with the Wastewater Management Individual Permit, issued by the DOH, Wastewater Branch.

(2) The Permittee shall develop a representative sampling plan for monitoring toxics reduction, including the number and location of sampling points.

- (a) If sludge generated at the facility is land applied or disposed at a surface disposal site, the sampling plan shall also include pathogens and vector attraction reduction monitoring.
- (b) If pathogen reduction is determined by time and temperature, the plan shall be designed to determine temperatures throughout the batch being treated.
- (c) If windrow composting is used, temperature shall be measured at least once for each 150 feet of windrow, and include measurements at depths of 12 to 24 inches below the surface.

c. **Requirements for Sludge Disposed of in Municipal Solid Waste Landfill**

- (1) The Permittee shall dispose sludge in municipal solid waste landfills that meet the requirements of 40 CFR 258; and HAR, Chapter 11-58.1.

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- (2) Sludge shall not contain "free liquids" as defined by EPA Method 9095B (Paint Filter Liquids Test).
- d. Requirements for Sludge Disposed of in Surface Disposal Sites (Sludge-only Landfill or Disposal on Land Not for the Purpose of Improving Plant Growth)
- (1) Sludge that is disposed of in a sludge-only landfill shall meet the general requirements, pollutant limits (for surface disposal sites without liners and leachate systems), management practices, and operational standards in 40 CFR 503 Subpart C and additional pollutant limits requested by the Director.
- (2) The Permittee shall have a qualified groundwater scientist develop a groundwater monitoring program for the surface disposal site or certify that the placement of sludge on the site will not cause aquifer contamination.
- e. Requirements for Sludge that is Land-Applied (Added to Soil for the Purpose of Improving Plant Growth)

The Permittee shall obtain and comply with the Wastewater Management Individual Permit, issued by the DOH, Wastewater Branch.

- f. Notification Requirements
- (1) If sludge other than exceptional quality sludge is shipped to another state or to Indian lands, the Permittee shall notify the permitting authorities in the receiving state or Indian land (the EPA Regional Office for that area and the State or Indian authorities) 60 calendar days prior to shipment.
- (2) The Permittee shall notify the EPA Regional Sludge Coordinator and the Director of any non-compliance that may seriously endanger public health or the environment within 24 hours after becoming aware of the non-compliance. A written non-compliance report shall be submitted, postmarked, or faxed within five working days after the Permittee becomes aware of the noncompliance.
- (3) The Permittee shall report all other instances of non-compliance not reported under Part H.1.f.(2) at the time discharge monitoring reports are submitted as required by Part I.1 of this permit.



**g. Annual Report**

By February 19th of each year, the Permittee shall submit an annual report on sludge management activities during the previous calendar year to the EPA Regional Sludge Coordinator and the Director. The report shall provide the following information:

- (1) Total amount of sludge generated that year and a breakdown of the usage/disposal methods employed (in dry weight, metric tons).
- (2) Results of all monitoring required by Part H.1.b.
- (3) If sludge was disposed in a municipal solid waste landfill, then the Permittee shall include the following certification statement:

**"I certify under the penalty of law, that the paint filter test and toxicity characteristic leaching procedure test requirements have been met, and that vector attraction reduction requirements have been met by the municipal solid waste landfill. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the necessary requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."**

- (4) If sludge was disposed in a surface disposal site, the following information shall be included:
  - (a) Requirements specified in 40 CFR 503.27.
  - (b) Name and mailing address of surface disposal operator if different from Permittee.
  - (c) Location (street address and latitude and longitude) of surface disposal site.
  - (d) Results of groundwater monitoring, or a copy of a certification by a groundwater scientist (including the scientist's name, title, and phone number) that the placement of sludge at the surface disposal site will not cause aquifer contamination.

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(5) If sludge was land-applied, the following information shall be included:

- (a) Requirements specified in 40 CFR 503.17(a) for all facilities preparing sludge for land application or reference to that facility's report, if submitted to EPA separately.
- (b) Names and addresses of all facilities receiving the non-exceptional quality sludge, including land appliers and those facilities providing further treatment/blending prior to land application.
- (c) Location of land application sites of non-exceptional quality sludge (street address, latitude and longitude) and sizes of parcels.
- (d) Crops grown, agronomic rate for the crops grown, and certification by the land appliers of non-exceptional quality sludge that the sludge was applied at a rate not exceeding the agronomic rate determined for each crop.
- (e) Copies of other certification statements by land appliers of non-exceptional quality sludge.

(6) If sludge was stored, the following information shall also be included:

- (a) Age of stored sludge.
- (b) Name and mailing address of operator of storage site if different from Permittee.
- (b) Location of stored sludge (street address, latitude and longitude).

(7) If sludge was disposed using other methods, descriptions of the methods employed and the locations (street address, latitude and longitude) of the usage/disposal sites shall be included.

(8) Annual reports shall be submitted to DOH through the CWB Compliance Submittal Form for Individual NPDES Permits and NGPCs. This form is accessible through the e-Permitting Portal website at: <https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx>. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool to locate the form. Follow the instruction to complete and submit this form. All submissions shall include a CD or DVD containing the downloaded e-Permitting

submission and a completed Transmittal Requirements and Certification Statement for e-Permitting NPDES/NGPC Compliance Submissions Form, with original signature and date.

- (9) A copy of the Annual report shall be submitted to EPA and DOH at the following addresses:

Regional Sludge Coordinator (WTR-5)  
Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Wastewater Sludge Program Manager  
Wastewater Branch  
Environmental Management Division  
Department of Health  
919 Ala Moana Boulevard, Room 309  
Honolulu, HI 96814-4920

**2. Requirements for Receiving Sludge**

**a. Approval**

Upon written request by the Permittee and approval by the Director, the Permittee may pump sludge hauled from the Permittee's other wastewater treatment plants directly to the facility's dissolved air floatation thickeners or anaerobic digesters through a sludge receiving station. The sludge receiving station shall be equipped to record the source and amount of sludge pumped to the digesters.

**b. Reporting**

The Permittee shall submit a monthly log reporting the sources and amounts of the sludge pumped into the digester during the calendar month. The log shall be submitted with the monthly DMRs.

**c. Retraction**

The Director reserves the right to retract the approval should the facility's treatment design capacity be exceeded, the effluent discharge monitoring results be in non-compliance with this permit, or the Director deems necessary.

**I. REPORTING REQUIREMENTS**

**1. Schedule of Submission**

**a. Effluent and Receiving Water Monitoring Programs**

**(1) Effluent Monitoring Program**

Within 30 calendar days after the effective date of this permit, the Permittee shall submit an updated/revised Effluent Monitoring Program which complies with Part A of this permit to the Director for approval.

**(2) The Programs(s) shall include at a minimum, but not be limited to the following:**

- (a) Sampling location map;**
- (b) Sample holding time;**
- (c) Preservation techniques;**
- (d) Test method and method detection level; and**
- (e) Quality control measures.**

The DOH reserves the right to require the Permittee to revise the approved program, as appropriate, pursuant toward compliance with the terms and conditions of this permit.

Monitoring shall be conducted according to test procedures approved under 40 CFR 136 with detection limits low enough to measure the compliance with Part A of this permit. For cases where the discharge limitation is below the lowest detection limit of the appropriate test procedure, the compliance shall be based upon the lowest detection limit of the method.

If a test method has not been promulgated for a particular constituent, the Permittee may use any suitable method for measuring the level of the constituent in the discharge provided the Permittee submit a description of the method or a reference to a published method.

**2. Transmittal and Monitoring Results Reporting Requirements**

**a. Certification of Transmittals**

Submit all information in accordance with HAR, Section 11-55-07(b), with the following certification statement by an appropriate signatory:

**"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations."**

- b. Include Permit No. HI 0021296 on each transmittal.**

Failure to provide the assigned permit number for this facility on future correspondence or transmittals may be a basis for delay of the processing of the document(s).

- c. Reporting of Discharge and Monitoring Results**

- (1) All wastewater monitoring, and biosolids/sludge monitoring, sample preservation, and analyses shall be performed as described in the most recent edition of 40 CFR 136, unless otherwise specified in this permit. All receiving water monitoring, sample preservation, and analyses shall be performed as specified in this permit.**
- (2) In accordance with 40 CFR 122.45(c), effluent analyses for metals shall be reported as total recoverable.**
- (3) Monitoring results shall be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The results of all monitoring required by this permit shall be submitted in a format which allows direct comparison with the limitations in Part A and other requirements of this permit.**
- (4) For the purposes of reporting, the Permittee shall use the reporting threshold equivalent to the laboratory's method detection limit (MDL). As such, the Permittee must conduct influent and effluent analyses in accordance with the method specified Appendix 1 of this permit and must utilize a standard calibration where the lowest standard point is equal to or less than the concentration of the minimum level (ML).**
  - (a) The MDL is defined as the minimum concentration of an analyte that can be detected with 99% confidence.**

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- (b) The ML is defined as the concentration in a sample equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed. Where a promulgated ML is not available, an interim ML is calculated using a factor of 3.18 times the MDL.

Analytical results at or above the laboratory's ML shall be reported on DMRs as the measured concentration. For analytical results between the MDL and the ML, the Permittee shall report in the comment section on the DMR the sigma ( $\sigma$ ) value (determined by the laboratory during the MDL study). Analytical results below the laboratory's MDL shall be reported as less than the MDL (i.e., "< 10").

- (5) Should there be no discharges during the monitoring period, the DMR form shall so state
- (6) All receiving water data shall be submitted annually to EPA's Storage and Retrieval Data Warehouse (STORET) in accordance with Water Quality Exchange (WQX) specifications (or equivalent data base/submission guidelines, as directed by the EPA).

Receiving water data shall be submitted electronically, as directed by EPA, to the following address:

U.S. Environmental Protection Agency  
Monitoring and Assessment Office, WTR-2  
75 Hawthorn Street  
San Francisco, CA 94105

**d. Additional Monitoring by the Permittee**

If the Permittee monitors any pollutant at location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR 136, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. The increased frequency shall also be indicated.

**e. Submittal of Monitoring Results Using NetDMR**

The Permittee shall submit DMRs required under this permit electronically using NetDMR. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

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DMRs shall be submitted electronically no later than the 28th day of the month following the completed reporting period. Once a Permittee begins submitting DMRs using NetDMR, it will no longer be required to submit hard copies of DMRs to the Director, unless otherwise requested by the Director.

**f. Schedule of Submission**

(1) The Permittee shall submit reports to the Director as specified below.

<b>Report</b>	<b>Reporting Period</b>	<b>Report Due Date</b>
Discharge Monitoring Report	1/Month	28 <sup>th</sup> day of the month following completed reporting period
SIU Compliance Status Report	2/Year	July 31 and December 31 of each year
Sludge/Biosolids Annual Report	1/Year	February 19 of each year
Pretreatment Annual Report	1/Year	February 28 of each year
Annual Receiving Water Monitoring Report	1/Year	March 31 of each year
Wastewater Pollution Prevention Program Annual Report	1/Year	March 31 of each year
Initial Investigation TRE Workplan	1/Permit Term	90 days after permit effective date
ZOM Dilution Analysis Study Work Plan	1/Permit Term	180 days after permit effective date
ZOM Dilution Analysis Study Report	1/Permit Term	3 years after permit effective date

Signed copies of monitoring and all other reports required by this permit, except those described in Part I.2.e of this permit, shall be submitted to the Director through the CWB Compliance Submittal Form for Individual NPDES Permits and NGPCs. This form is accessible through the e-Permitting Portal website at: <https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx>.

You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool to locate the form. Follow the instruction to complete and submit this form. All submissions shall include a CD or DVD containing the downloaded e-Permitting submission and a completed Transmittal Requirements and Certification Statement for e-Permitting NPDES/NGPC Compliance Submissions Form, with original signature and date.

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Duplicate copies of the sludge reports shall be submitted to the Regional Administrator as specified in Part H of this permit.

- (2) The Permittee shall submit reports to the Director as specified below.

Report	Reporting Period	Report Due Date
Shoreline Water Quality Monitoring	1/Month	28 <sup>th</sup> day of the month following completed reporting period
Offshore Water Quality Monitoring	1/Quarter	90 <sup>th</sup> day following completed reporting period
STORET (or equivalent) Data Submission Report (Submit to EPA Only)	1/Year	March 31 of each year

Signed copies of monitoring and all other reports required by this permit, except those described in Part I.2.e of this permit, shall be submitted to the Director through the CWB Compliance Submittal Form for Individual NPDES Permits and NGPCs. This form is accessible through the e-Permitting Portal website at: <https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx>.

**3. Reporting of Noncompliance, Unanticipated Bypass, or Upset**

The following requirements replace the 24-hour notice requirements for bypasses (Standard NPDES Conditions Section 17(d)(2)(B) and 40 CFR Section 122.41(1)(6)(ii)(A)) and upsets (Standard NPDES Conditions Section 18(c)(3) and 40 CFR Section 122.41(1)(6)(ii)(B)).

**a. Immediate Reporting**

- (1) In the event of a bypass, upset, or sewage spill resulting in or contributing to a discharge to State waters, the Permittee shall orally notify the DOH at the time the Permittee's authorized personnel become aware of the circumstances, but no later than 24 hours after the event.
- (2) In the event of a bypass, upset, or sewage spill resulting in or contributing to a discharge of 1,000 gallons or more to State waters, the Permittee shall orally notify the DOH and the AP news wire services at the time the Permittee's authorized personnel become aware of the circumstances, but no later than 24 hours after the event.



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- (3) In the event of an exceedance of a daily maximum discharge limitation, if any exist, the Permittee shall orally notify the DOH at the time the Permittee's authorized personnel becomes aware of the circumstances, but no later than 24 hours after the event.

**b. Contact for Oral Reports**

- (1) The Permittee shall make oral reports during regular office hours (7:45 a.m. to 4:30 p.m.) to the DOH, Clean Water Branch (CWB) at 586-4309.
- (2) The Permittee shall make oral reports outside of regular office hours to the State-On-Scene Coordinator (SOSC) from the Office of Hazard Evaluation and Emergency Response (HEER) at 226-3799, or to the State Hospital Operator at 247-2191.

**c. Written Submission**

- (1) For those non-compliances requiring immediate reporting, the Permittee shall submit a written non-compliance report. The Permittee shall submit the report to the DOH, CWB, in accordance with Part I.2.f.(1) within five working days after the Permittee's authorized personnel becomes aware of the noncompliance.
- (2) The report shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time it is expected to continue; public notice efforts, if any; clean-up efforts, if any; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the non-compliance.
- (3) The Director may waive the written report or the five (5) working day deadline on a case-by-case basis for spills, bypasses, upsets, and violations of daily maximum discharge limitations if the oral report has been received within 24 hours of the non-compliance or when the Permittee's authorized personnel becomes aware of the non-compliance.

**d. Other Non-Compliance**

The Permittee shall report all other instances of non-compliance not reported under Part I.2.a at the time DMRs are submitted as required by Part I.1 of this permit. The non-compliance reports shall contain the information requested in Part I.3.c.(2) of this permit.

**4. Other Reporting Requirements**

The Permittee shall comply with the reporting requirements of 40 CFR 122.41(l)(1) through 122.41(l)(5), and 122.41(l)(8) as incorporated by Standard NPDES Permit Conditions, Section 16. Parts I.1 and I.2 of this permit supersede the requirements of 40 CFR 122.41(l)(6) and 122.41(l)(7).

**5. Planned Changes**

Any planned physical alterations or additions to the permitted facility, not covered by Standard Condition 16.a.(1), (2) or (3) shall be reported to the Director on a quarterly basis.

**6. Types of Sample**

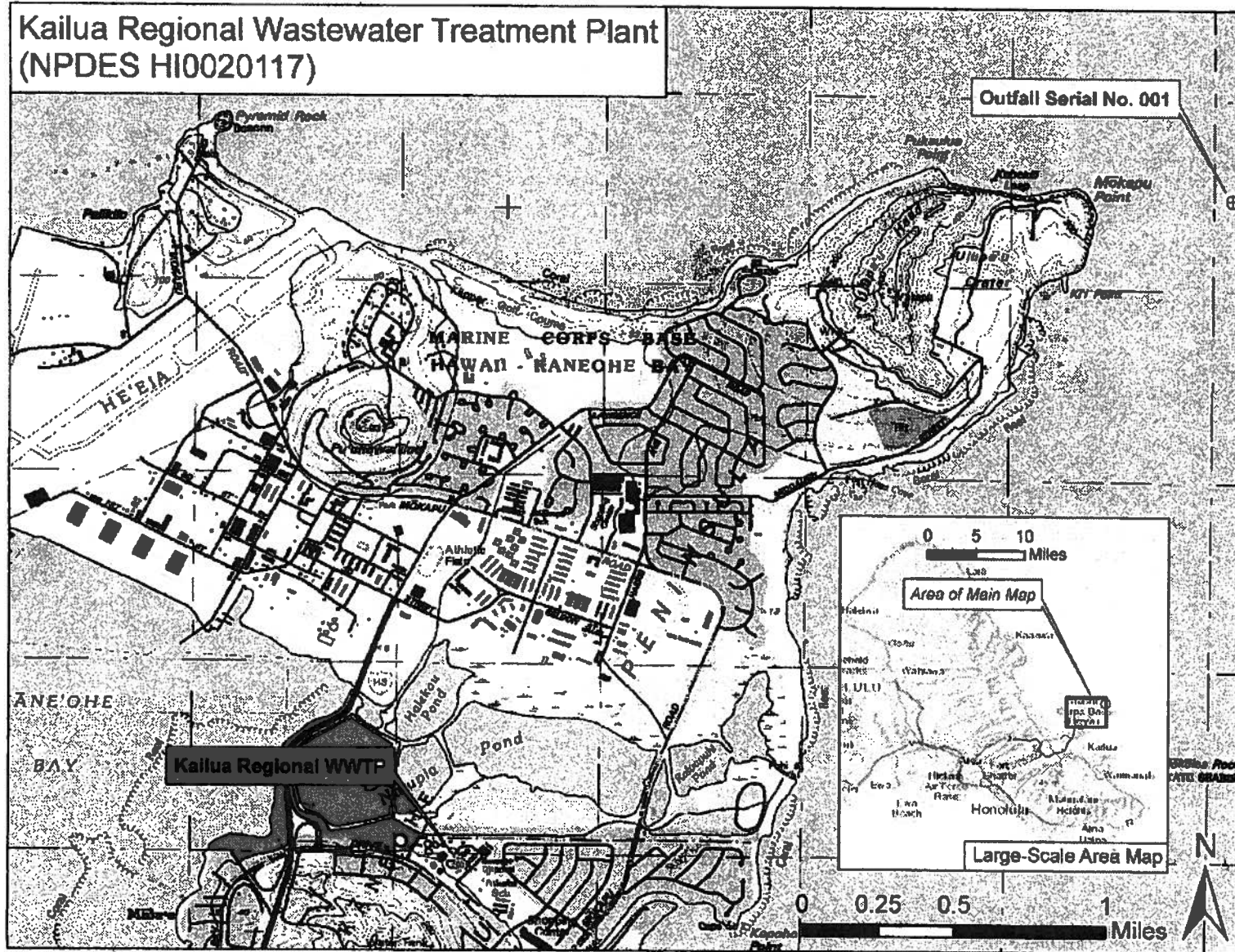
- a. "Grab sample" means an individual sample collected at a randomly-selected time over a period not exceeding 15 minutes.
- b. "Composite sample" means a combination of at least eight (8) sample aliquots, collected at periodic intervals during the operating hours of the facility over a 24-hour period. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

**J. SPECIAL CONDITIONS**

1. Wastewater treatment facilities subject to this permit shall be supervised and operated by persons possessing certificates of appropriate grade, as determined by the DOH. If such personnel are not available to staff the wastewater treatment facilities, a program to promote such certification shall be developed and enacted by the Permittee. Activities of this program shall be reported in the Annual Report in Part F of this permit.
2. The Permittee shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the Permittee shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.
3. This permit may be reopened and modified, in accordance with NPDES regulations at 40 CFR 122 and 124, as necessary, to include additional conditions or limitations based on newly available information.

**K. LOCATION AND ZOM AND RECEIVING WATER STATION MAPS**

(See Figures 1 and 2)



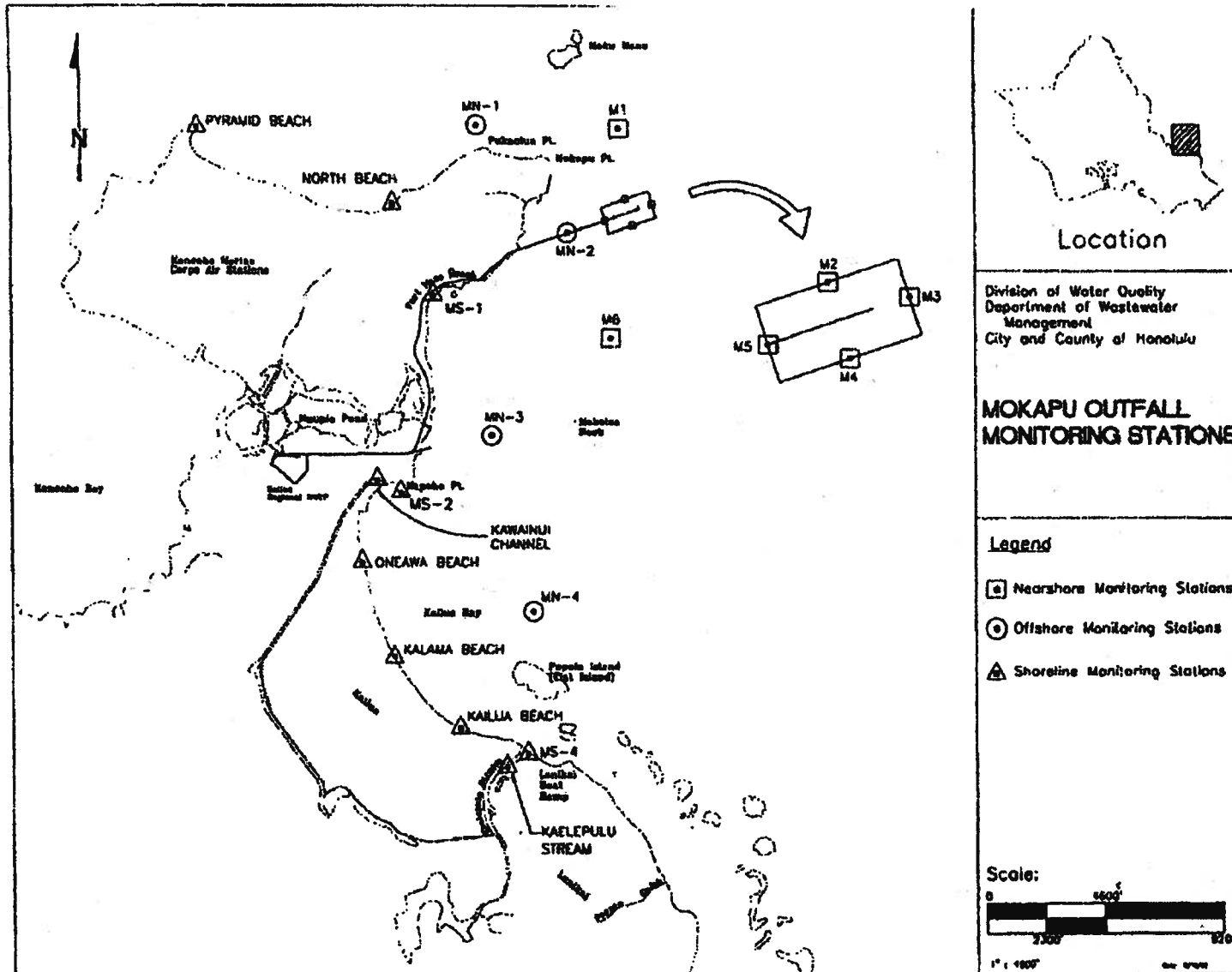


Figure 2 – Zone of Mixing (ZOM) and Receiving Water Monitoring Locations

**APPENDIX 1 – MONITORING METHODS**

Discharge Parameter	Sample Type	Analytical Method
<b>Metals</b>		
Antimony	24-Hour Composite	As specified in 40 CFR 136
Arsenic	24-Hour Composite	As specified in 40 CFR 136
Beryllium	24-Hour Composite	As specified in 40 CFR 136
Cadmium	24-Hour Composite	As specified in 40 CFR 136
Chromium	24-Hour Composite	As specified in 40 CFR 136
Copper	24-Hour Composite	As specified in 40 CFR 136
Lead	24-Hour Composite	As specified in 40 CFR 136
Mercury	24-Hour Composite	As specified in 40 CFR 136
Nickel	24-Hour Composite	As specified in 40 CFR 136
Selenium	24-Hour Composite	As specified in 40 CFR 136
Silver	24-Hour Composite	As specified in 40 CFR 136
Thallium	24-Hour Composite	As specified in 40 CFR 136
Zinc	24-Hour Composite	As specified in 40 CFR 136
<b>Pesticides</b>		
Aldrin	24-Hour Composite	As specified in 40 CFR 136
Chlordane	24-Hour Composite	As specified in 40 CFR 136
Dieldrin	24-Hour Composite	As specified in 40 CFR 136
4,4'-DDT	24-Hour Composite	As specified in 40 CFR 136
4,4'-DDE	24-Hour Composite	As specified in 40 CFR 136
4,4'-DDD	24-Hour Composite	As specified in 40 CFR 136
Alpha-Endosulfan	24-Hour Composite	As specified in 40 CFR 136
Beta Endosulfan	24-Hour Composite	As specified in 40 CFR 136
Endosulfan Sulfate	24-Hour Composite	As specified in 40 CFR 136
Endrin	24-Hour Composite	As specified in 40 CFR 136
Endrin Aldehyde	24-Hour Composite	As specified in 40 CFR 136
Heptachlor	24-Hour Composite	As specified in 40 CFR 136
Heptachlor Epoxide	24-Hour Composite	As specified in 40 CFR 136
Alpha BHC	24-Hour Composite	As specified in 40 CFR 136
Beta BHC	24-Hour Composite	As specified in 40 CFR 136
Delta BHC	24-Hour Composite	As specified in 40 CFR 136
Gamma BHC (Lindane)	24-Hour Composite	As specified in 40 CFR 136
Toxaphene	24-Hour Composite	As specified in 40 CFR 136
PCB 1016	24-Hour Composite	As specified in 40 CFR 136
PCB 1221	24-Hour Composite	As specified in 40 CFR 136
PCB 1232	24-Hour Composite	As specified in 40 CFR 136
PCB 1242	24-Hour Composite	As specified in 40 CFR 136
PCB 1248	24-Hour Composite	As specified in 40 CFR 136
PCB 1254	24-Hour Composite	As specified in 40 CFR 136
PCB 1260	24-Hour Composite	As specified in 40 CFR 136
<b>Base/Neutral Extractables</b>		
Acenaphthene	24-Hour Composite	As specified in 40 CFR 136
Acenaphthylene	24-Hour Composite	As specified in 40 CFR 136
Anthracene	24-Hour Composite	As specified in 40 CFR 136
Benzidine	24-Hour Composite	As specified in 40 CFR 136
Benzo(a)Anthracene	24-Hour Composite	As specified in 40 CFR 136
Benzo(a)Pyrene	24-Hour Composite	As specified in 40 CFR 136
Benzo(b)Fluoranthene	24-Hour Composite	As specified in 40 CFR 136

Discharge Parameter	Sample Type	Analytical Method
Benzo(g,h,i)Perylene	24-Hour Composite	As specified in 40 CFR 136
Benzo(k)Fluoranthene	24-Hour Composite	As specified in 40 CFR 136
Bis(2-Chloroethoxy)Methane	24-Hour Composite	As specified in 40 CFR 136
Bis(2-Chloroethyl)Ether	24-Hour Composite	As specified in 40 CFR 136
Bis(2-Chloroisopropyl)Ether	24-Hour Composite	As specified in 40 CFR 136
Bis(2-Ethylhexyl)Phthalate	24-Hour Composite	As specified in 40 CFR 136
4-Bromophenyl Phenyl Ether	24-Hour Composite	As specified in 40 CFR 136
Butyl Benzyl Phthalate	24-Hour Composite	As specified in 40 CFR 136
2-Chloronaphthalene	24-Hour Composite	As specified in 40 CFR 136
Chrysene	24-Hour Composite	As specified in 40 CFR 136
Dibenzo(a,h)Anthracene	24-Hour Composite	As specified in 40 CFR 136
4-Chlorophenyl Phenyl Ether	24-Hour Composite	As specified in 40 CFR 136
1,2-Dichlorobenzene	24-Hour Composite	As specified in 40 CFR 136
1,3-Dichlorobenzene	24-Hour Composite	As specified in 40 CFR 136
1,4-Dichlorobenzene	24-Hour Composite	As specified in 40 CFR 136
3,3-Dichlorobenzidine	24-Hour Composite	As specified in 40 CFR 136
Diethyl Phthalate	24-Hour Composite	As specified in 40 CFR 136
Dimethyl Phthalate	24-Hour Composite	As specified in 40 CFR 136
Di-N-Butyl Phthalate	24-Hour Composite	As specified in 40 CFR 136
2,4-Dinitrotoluene	24-Hour Composite	As specified in 40 CFR 136
2,6-Dinitrotoluene	24-Hour Composite	As specified in 40 CFR 136
1,2-Diphenylhydrazine (as Azobenzene)	24-Hour Composite	As specified in 40 CFR 136
Di-N-Octyl Phthalate	24-Hour Composite	As specified in 40 CFR 136
Fluoranthene	24-Hour Composite	As specified in 40 CFR 136
Fluorene	24-Hour Composite	As specified in 40 CFR 136
Hexachlorobenzene	24-Hour Composite	As specified in 40 CFR 136
Hexachlorobutadiene	24-Hour Composite	As specified in 40 CFR 136
Hexachlorocyclopentadiene	24-Hour Composite	As specified in 40 CFR 136
Hexachloroethane	24-Hour Composite	As specified in 40 CFR 136
Indeno(1,2,3-cd)Pyrene	24-Hour Composite	As specified in 40 CFR 136
Isophorone	24-Hour Composite	As specified in 40 CFR 136
Naphthalene	24-Hour Composite	As specified in 40 CFR 136
Nitrobenzene	24-Hour Composite	As specified in 40 CFR 136
N-Nitrosodimethylamine	24-Hour Composite	As specified in 40 CFR 136
N-Nitrosodi-N-Propylamine	24-Hour Composite	As specified in 40 CFR 136
N-Nitrosodiphenylamine	24-Hour Composite	As specified in 40 CFR 136
Phenanthrene	24-Hour Composite	As specified in 40 CFR 136
Pyrene	24-Hour Composite	As specified in 40 CFR 136
1,2,4-Trichlorobenzene	24-Hour Composite	As specified in 40 CFR 136
<b>Acid Extractables</b>		
2-Chlorophenol	24-Hour Composite	As specified in 40 CFR 136
2,4-Dichlorophenol	24-Hour Composite	As specified in 40 CFR 136
2,4-Dimethylphenol	24-Hour Composite	As specified in 40 CFR 136
4,6-Dinitro-O-Cresol	24-Hour Composite	As specified in 40 CFR 136
2,4-Dinitrophenol	24-Hour Composite	As specified in 40 CFR 136
2-Nitrophenol	24-Hour Composite	As specified in 40 CFR 136
4-Nitrophenol	24-Hour Composite	As specified in 40 CFR 136



Discharge Parameter	Sample Type	Analytical Method
P-Chloro-M-Cresol	24-Hour Composite	As specified in 40 CFR 136
Pentachlorophenol	24-Hour Composite	As specified in 40 CFR 136
Phenol	24-Hour Composite	As specified in 40 CFR 136
2,4,6-Trichlorophenol	24-Hour Composite	As specified in 40 CFR 136
<b>Volatile Organics</b>		
Acrolein	Grab	As specified in 40 CFR 136
Acrylonitrile	Grab	As specified in 40 CFR 136
Benzene	Grab	As specified in 40 CFR 136
Bromoform	Grab	As specified in 40 CFR 136
Carbon Tetrachloride	Grab	As specified in 40 CFR 136
Chlorobenzene	Grab	As specified in 40 CFR 136
Chlorodibromomethane	Grab	As specified in 40 CFR 136
Chloroethane	Grab	As specified in 40 CFR 136
2-Chloroethyl Vinyl Ether	Grab	As specified in 40 CFR 136
Chloroform	Grab	As specified in 40 CFR 136
Dichlorobromomethane	Grab	As specified in 40 CFR 136
1,1-Dichloroethane	Grab	As specified in 40 CFR 136
1,2-Dichloroethane	Grab	As specified in 40 CFR 136
1,1-Dichloroethylene	Grab	As specified in 40 CFR 136
1,2-Dichloropropane	Grab	As specified in 40 CFR 136
1,3-Dichloropropylene	Grab	As specified in 40 CFR 136
Ethylbenzene	Grab	As specified in 40 CFR 136
Methyl Bromide	Grab	As specified in 40 CFR 136
Methyl Chloride	Grab	As specified in 40 CFR 136
1,1,2,2-Tetrachloroethane	Grab	As specified in 40 CFR 136
Tetrachloroethylene	Grab	As specified in 40 CFR 136
Toluene	Grab	As specified in 40 CFR 136
1,2-Trans-Dichloroethylene	Grab	As specified in 40 CFR 136
1,1,1-Trichloroethane	Grab	As specified in 40 CFR 136
1,1,2-Trichloroethane	Grab	As specified in 40 CFR 136
Trichloroethylene	Grab	As specified in 40 CFR 136
Vinyl Chloride	Grab	As specified in 40 CFR 136
<b>Miscellaneous</b>		
Cyanide	Grab	As specified in 40 CFR 136
Asbestos (Not required unless specified)	24-Hour Composite	As specified in 40 CFR 136
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	24-Hour Composite	As specified in 40 CFR 136
<b>301(h) Pesticides</b>		
Demeton	24-Hour Composite	As specified in 40 CFR 136
Guthion	24-Hour Composite	As specified in 40 CFR 136
Parathion	24-Hour Composite	As specified in 40 CFR 136
Malathion	24-Hour Composite	As specified in 40 CFR 136
Mirex	24-Hour Composite	As specified in 40 CFR 136
Methoxychlor	24-Hour Composite	As specified in 40 CFR 136



**DEPARTMENT OF HEALTH  
STANDARD NPDES PERMIT CONDITIONS  
(Version 14)**

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**Note:**

All references to Title 40 of the Code of Federal Regulations (40 CFR) are to regulations that are in effect on July 1, 2004, unless otherwise specified. The Clean Water Act (Act) is also known as the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, and appears in 33 U.S.C. §§1251 to 1387.

“This permit” means the applicable individual NPDES permit to which these standard conditions apply.

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**1. Basic water quality criteria** (comply with Hawaii Administrative Rules, Chapter 11-54, Section 11-54-04)

- a. The Permittee shall not cause or contribute to a violation of the narrative basic water quality criteria specified in Section 11-54-04(a) which states:

“(a) All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:

- (1) Materials that will settle to form objectionable sludge or bottom deposits;
- (2) Floating debris, oil, grease, scum, or other floating materials;
- (3) Substances in amounts sufficient to produce taste in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity, or other conditions in the receiving waters;
- (4) High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;
- (5) Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life;
- (6) Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands.”

- b. The Permittee shall not cause or contribute to a violation of the basic numeric water quality requirements of Hawaii Administrative Rules, Chapter 11-54, Section 11-54-04(b).

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**2. Onshore or offshore construction**

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any State waters.

**3. Sampling requirements and definitions**

**a. Sampling Points**

All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Administrator and the Director of Health. No discharge is authorized which does not totally pass through the final monitoring point.

**b. Flow Measurements**

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus ten (10) per cent from the true discharge rates throughout the range of expected discharge volumes. Once-through condenser cooling water flow which is monitored by pump logs or pump hour meters as specified in this permit based on the manufacturer's pump curves shall not be subject to this requirement. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

- (1) "A Guide of Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421.)
- (2) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

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- (3) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
- (4) "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-77, September 1981, 135 pp. (Available from the General Services Administration (8BRC), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

**c. Calibration**

The Permittee shall periodically calibrate and perform maintenance on all monitoring and analytical equipment used to monitor the pollutants discharged under this permit, at intervals which will insure the accuracy of measurements, but no less than the manufacturer's recommended intervals or six (6) month intervals. Records of calibration shall be kept under section 14.

**d. pH Effluent Limitations Under Continuous Monitoring**

If the Permittee continuously measures the pH of the discharge under a requirement or option in this permit, excursions from the range provided in this permit are permitted, provided:

- (1) The pH limitation in this permit is based upon a requirement imposed under 40 CFR Subchapter N, Effluent Guidelines and Standards;
- (2) The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month;
- (3) No individual excursions from the range of pH values shall exceed 60 minutes; and
- (4) For purposes of this section, an "excursion" is an unintentional and temporary incident in which the pH value of a discharge exceeds the range set forth in this permit. The number of individual excursions exceeding 60 minutes and the total accumulated excursion time in minutes occurring in any calendar month shall be reported in accordance with this permit.

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e. Average

As used in this permit, unless otherwise stated, the term average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For fecal coliform, enterococcus, or *clostridium perfringens*, the "average" shall be the geometric mean. For total coliform, the "average" shall be the median.

f. Mass/Day Measurements

- (1) The "daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. The daily discharge shall be determined by using the following equations:

Daily Discharge (lbs/day) =  $8.34 \times Q \times C$ ; or

Daily Discharge (kg/day) =  $3.785 \times Q \times C$ ;

where "C" (in mg/l) is the measured daily concentration of the pollutant and "Q" (in million gallons per day) is the measured effluent flow rate for the same calendar day.

If only one (1) sample is taken during any calendar day, the mass (weight) of pollutant discharged that is calculated from it is the "daily discharge."

- (2) The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during the month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days. This limitation is identified as "Monthly Average" in this permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.
- (3) The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar week in which daily discharges are sampled and/or measured. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days. This limitation is identified as "Weekly Average" in this permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

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- (4) The "maximum daily discharge" is the highest daily discharge value recorded during the reporting period. This limitation is identified as "Daily Maximum" in this permit and the maximum daily discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

**g. Concentration Measurements**

- (1) The "daily concentration" is the concentration of a pollutant discharged during a calendar day. It is equal to the concentration of a composite sample or in the case of grab samples, it is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. If only one (1) sample is taken during any calendar day, it represents the "daily concentration."
- (2) The "average monthly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the daily concentrations sampled and/or measured divided by the number of daily discharges sampled and/or measured during the month (arithmetic mean of the daily concentration values). The average monthly count for fecal coliform, enterococcus, and *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar month. The average monthly count for total coliform is the median of the counts for samples collected (not less than five (5) discrete samples) during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" or "Other Limits" in this permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the Discharge Monitoring Report Form.
- (3) The "average weekly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during the week (arithmetic mean of the daily concentration values). The average weekly count for fecal coliform, enterococcus, or *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar week. The average weekly count for total coliform is the median of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" or "Other Limits" in this permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.



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- (4) The "maximum daily concentration" is the highest daily concentration value recorded during the reporting period. This limitation identified as "Daily Maximum" or "Other Limits" in this permit and the maximum daily concentration is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.
- h. The effluent flow, expressed as cubic meters per day or million gallons per day (MGD), is the 24-hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in this permit, the flow rate values are reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.
  - (1) An "instantaneous flow measurement" is a measure of flow taken at the time of sampling, when both the sample and flow will be representative of the total discharge.
  - (2) Where monitoring requirements for pH; dissolved oxygen; or fecal coliform, enterococcus, or *clostridium perfringens* are specified in this permit, the values are generally reported in the "Quality or Concentration" column on the Discharge Monitoring Report Form.
- i. The "arithmetic mean" of any set of values is the summation of the individual values divided by the number of individual values.
- j. The "geometric mean" of any set of values is the  $N^{\text{th}}$  root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).
- k. "Weighted by flow value" means the summation of each concentration multiplied by its respective flow divided by the summation of the respective flows.
- l. The "median" of any set of ordered values is the value below and above which there is an equal number of values or which is the arithmetic mean of the two (2) middle values if there is no one (1) middle number.
- m. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for the purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

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- n. "Removal efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using the average monthly concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$\text{Removal Efficiency (per cent)} = 100 \times \left( 1 - \frac{C_{\text{effluent}}}{C_{\text{influent}}} \right)$$

**4. Duty to reapply** (comply with 40 CFR §122.41(b) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-27)

If the Permittee wishes to continue an activity regulated by this permit after the expiration of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application 180 days before the existing permit expires and as specified in the Hawaii Administrative Rules, Chapter 11-55, Section 11-55-27.

**5. Applications** (based in part on 40 CFR §122.22)

- a. All permit applications shall be signed as follows:

- (1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
  - (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  - (B) The manager of one (1) or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

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- (2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or
  - (3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
    - (A) The chief executive officer of the agency, or
    - (B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
  - (4) For a trust. By a trustee.
  - (5) For a limited liability company (LLC). By the Manager or a Member authorized to make management decisions for the LLC who is in charge of a principal business function, or who performs similar policy or decision-making functions for the LLC.
- b. All other reports or responses to requests for information required by the Director of Health shall be signed by a person described in subsection a., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.);
  - (2) The authorization is made in writing by a person designated under subsection a.; and
  - (3) The written authorization is submitted to the Director of Health.
- c. Changes to authorization. If an authorization under subsection b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection b. must be submitted to the Director of Health prior to or together with any reports, information, or applications to be signed by a duly authorized representative.

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- d. **Certification.** Any person signing a document under subsection a. or b. shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**6. Duty to comply (comply with 40 CFR §122.41(a))**

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.
- b. The Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation.

The Act provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act,

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or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or imprisonment of not more than two (2) years, or both.

Any person who *knowingly* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both.

Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of this Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

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**7. Need to halt or reduce activity not a defense** (comply with 40 CFR §122.41(c))

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**8. Duty to mitigate** (based in part on 40 CFR §122.41(d))

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit or applicable law.

**9. Proper operation and maintenance** (comply with 40 CFR §122.41(e))

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

**10. Permit actions** (comply with 40 CFR §122.41(f))

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**11. Property rights** (comply with 40 CFR §122.41(g))

This permit does not convey any property rights of any sort or any exclusive privilege.

**12. Duty to provide information** (comply with 40 CFR §122.41(h))

The Permittee shall furnish to the Director of Health, within a reasonable time, any information which the Director of Health may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director of Health upon request, copies of records required to be kept by this permit.

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**13. Inspection and entry** (comply with 40 CFR §122.41(i)(3))

The Permittee shall allow the Director of Health, or a duly authorized agent (including an authorized contractor acting as a duly authorized agent of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

**14. Monitoring and records** (based in part on 40 CFR §122.41(j))

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

As used in this section, a representative sample means that the content of the sample shall:

- (1) Be identical to the content of the substance sampled at the time of the sampling;
- (2) Accurately represent the monitored item (for example, sampling to monitor final effluent quality shall accurately represent that quality, even though the sampling is done upstream of the discharge point); and
- (3) Accurately represent the monitored item for the monitored time period (for example, sampling to represent monthly average effluent flows shall be taken at times and on days that cover significant flow variations). Representative sampling may mean including weekends and storm events and may mean taking more samples than the minimum number specified in this permit.

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The burden of proving that sampling or monitoring is representative shall be on the Permittee.

- b. The permittee shall retain all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit for a minimum of five (5) years from the date of the sample, measurement, report or application. This period of retention shall be extended during the course of any unresolved litigation or administrative enforcement action regarding the discharge of pollutants by the permittee or when requested by the Director of Health or Regional Administrator.
- c. Any records of monitoring activities and results shall include for all samples:
  - (1) The date, exact place, and time of sampling or measurements;
  - (2) The individual(s) who performed the sampling or measurements;
  - (3) The date(s) analyses were performed;
  - (4) The individual(s) who performed the analyses;
  - (5) The analytical techniques or methods used; and
  - (6) The results of the analyses.
- d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.
- e. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both for a first conviction. For a second and subsequent conviction, the person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four (4) years, or both. (Updated under the Water Quality Act of 1987)



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- 15. Signatory requirement** (comply with 40 CFR §§122.22 and 122.41(k))
- a. All applications, reports, or information submitted to the Director of Health shall be signed and certified. (See section 5 or 40 CFR §122.22.)
  - b. The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
- 16. Reporting requirements** (based in part on 40 CFR §122.41(l))
- a. **Planned changes.** The Permittee shall give notice to the Director of Health as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
    - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or
    - (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1) or section 19.
    - (3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and the alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
  - b. **Anticipated noncompliance.** The Permittee shall give advance notice to the Director of Health of any planned changes in the permitted facility or activity which may result in noncompliance with this permit's requirements.
  - c. **Transfers.** This permit is not transferable to any person except after notice to the Director of Health. The Director of Health may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate other requirements as may be necessary under the Act or Chapter

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342D, HRS. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

- d. **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
  - (1) Monitoring results must be reported on a Discharge Monitoring Report Form.
  - (2) If the Permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form.
  - (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director of Health in this permit.
- e. **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- f. **Other noncompliance.** The Permittee shall report all instances of noncompliance not reported under subsections d. and e., at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- g. **Other information.** Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director of Health, the Permittee shall promptly submit the facts or information.

**17. Bypass** (based in part on 40 CFR §122.41(m))

- a. **Definitions.**
  - (1) "Bypass" means the intentional diversion of any waste stream from any portion of a treatment facility.

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- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. Prohibition of bypass. Every bypass is prohibited and the Director of Health may take enforcement action against a Permittee for bypass, except as provided in subsection c.
- c. Exceptions to bypass prohibition.
  - (1) Bypass not exceeding limitations. A bypass is allowable under this paragraph only if it does not cause any effluent limitation to be exceeded, and only if the bypass is necessary for essential maintenance to assure efficient operation.
  - (2) Bypass unavoidable to prevent specified harm. A bypass is allowable under this paragraph if:
    - (A) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - (B) There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
    - (C) The Permittee submitted notices as required under subsection d.
  - (3) Approved anticipated bypass. An anticipated bypass is allowable if the Director of Health approves it. The Director of Health shall approve the anticipated bypass only if the Director of Health receives information sufficient to show compliance with paragraph 2., including information on the potential adverse effects with and without the bypass, and information on the search for and the availability of alternatives, whether the Permittee ultimately considers the alternatives feasible or not.

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d. Notice.

- (1) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, the Permittee shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
- (2) Unanticipated bypass. The Permittee shall submit reports of unanticipated bypasses.
  - (A) Reports required by the Reporting Requirements of this permit shall be made in accordance with that section. If the Permittee questions whether the Reporting Requirements apply, the Permittee shall follow the Reporting Requirements of this permit;
  - (B) For all other bypasses, reports shall be made orally within 24 hours from the time the Permittee becomes aware of the bypass. Written reports may be required on a case-by-case basis.

- e. Burden of proof. In any enforcement proceeding, the party seeking to establish that any exception to the bypass prohibition applies has the burden of proof. Proof that effluent limitations were met requires effluent monitoring during the bypass.

**18. Upset (based in part on 40 CFR §122.41(n))**

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with the technology based permit effluent limitations if the requirements of subsection c. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

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- (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated;
- (3) The Permittee submitted notice within 24 hours of any upset which exceeded any effluent limitation in this permit; and
- (4) The Permittee complied with any remedial measures required under 40 CFR §122.41(d).

d. Burden of proof. In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

**19. Existing manufacturing, commercial, mining, and silvicultural dischargers (comply with 40 CFR §122.42(a))**

In addition to the reporting requirements under 40 CFR §122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director of Health as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":
  - (1) One hundred micrograms per liter (100  $\Phi$ g/l);
  - (2) Two hundred micrograms per liter (200  $\Phi$ g/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500  $\Phi$ g/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
  - (4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in

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this permit, if that discharge will exceed the highest of the following "notification levels":

- (1) Five hundred micrograms per liter (500  $\mu$ g/l);
- (2) One milligram per liter (1 mg/l) for antimony;
- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
- (4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

**20. Publicly owned treatment works** (comply with 40 CFR §122.42(b))

This section applies only to publicly owned treatment works as defined in 40 CFR §122.2.

- a. All publicly owned treatment works must provide adequate notice to the Director of Health of the following:
  - (1) Any new introduction of pollutants into the publicly owned treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Act if it were directly discharging those pollutants; and
  - (2) Any substantial change in the volume or character of pollutants being introduced into that publicly owned treatment works by a source introducing pollutants into the publicly owned treatment works at the time of issuance of the permit; and
  - (3) For purposes of this paragraph, adequate notice shall include information on paragraph (1), the quality and quantity of effluent introduced into the publicly owned treatment works, and paragraph (2), any anticipated impact of the change on the quantity or quality of effluent to be discharged from the publicly owned treatment works.
- b. (The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act.) Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR Part 270. Hazardous wastes are defined in 40 CFR Part 261 and include any mixture containing any waste listed under 40 CFR §§261.31-261.33. The Domestic Sewage Exclusion (40 CFR

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§261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

- 21. Reopener clause** (comply with 40 CFR §122.44(c), 40 CFR §122.46(d), and 40 CFR §125.123(d)(4))
- a. For any discharger within a primary industry category (see 40 CFR Part 122, Appendix A), requirements under Section 307(a)(2) of the Act as follows:
- (1) On or before June 30, 1981:
    - (A) If applicable standards or limitations have not yet been promulgated, this permit shall include a condition stating that, if an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act and that effluent standard or limitation is more stringent than any effluent limitation in this permit or controls a pollutant not limited in this permit, this permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.
    - (B) If applicable standards or limitations have been promulgated or approved, this permit shall include those standards or limitations. (If EPA approves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the Federal Register that the limitations are "approved" or the purpose of this regulation.)
  - (2) On or after the statutory deadline set forth in Sections 301(b)(2)(A), (C), and (E) of the Act, any permit issued shall include effluent limitations to meet the requirements of Sections 301(b)(2)(A), (C), (D), (E), and (F) of the Act, whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by this section.
  - (3) The Director of Health shall promptly modify or revoke and reissue any permit containing the clause required under this section to incorporate an applicable effluent standard or limitation under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act which is promulgated or approved after this permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in this permit, or controls a pollutant not limited in this permit.

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- (4) For any permit issued to a treatment works treating domestic sewage, including "sludge-only facilities," the Director of Health shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Act. The Director of Health may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.
- b. All permits which authorize the discharge of pollutants pursuant to 40 CFR §125.123(c) shall contain the following clause: In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Director of Health determines that continued discharge may cause unreasonable degradation of the marine environment.

**22. Privately owned treatment works** (The following conditions were established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR §122.44(m).)

This section applies only to privately owned treatment works as defined in 40 CFR §122.2.

- a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.
- b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to insure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze the samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA or State inspector. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.
- c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the Permittee shall submit a request for permit



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modification and an application, under 40 CFR §122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least six (6) months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

**23. Transfers by modification** (comply with 40 CFR §122.61(a) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-16)

Except as provided in section 24, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR §122.62(b)(2)), or a minor modification made (under 40 CFR §122.63(d)), to identify the new Permittee and incorporate other requirements as may be necessary under the Act.

**24. Automatic transfers** (comply with 40 CFR §122.61(b) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-04(d))

As an alternative to transfers under section 23, any NPDES permit may be automatically transferred to a new Permittee if:

- a. The current Permittee notifies the Director of Health at least 30 days in advance of the proposed transfer date in subsection b;
- b. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- c. The Director of Health does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this paragraph may also be a minor modification under 40 CFR §122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection b.

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**25. Minor modification of permits** (comply with 40 CFR §122.63)

Upon the consent of the Permittee, the Director of Health may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR §122.62. Minor modifications may only:

- a. Correct typographical errors;
- b. Require more frequent monitoring or reporting by the Permittee;
- c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
- d. Allow for a change in ownership or operational control of a facility where the Director of Health determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Director of Health;
- e.
  - (1) Change the construction schedule for a discharger which is a new source. No change shall affect a discharger's obligation prior to discharge under 40 CFR §122.29.
  - (2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.
- f. (Reserved.)
- g. Incorporate conditions of a publicly owned treatment works pretreatment program that has been approved in accordance with the procedures in 40 CFR §403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR §403.18) as enforceable conditions of the publicly owned treatment works' permit.

**26. Termination of permits** (comply with 40 CFR §122.64, 40 CFR §124.5(d), and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-18)

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- a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:
- (1) Noncompliance by the Permittee with any condition of the permit;
  - (2) The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts or the Permittee's misrepresentation of any relevant facts at any time;
  - (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
  - (4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a publicly owned treatment works).
- b. An NPDES Permittee shall report within 30 days after the permanent discontinuance or dismantlement of that treatment works or waste outlet for which the NPDES permit had been issued. The NPDES permit shall then be surrendered to the Director of Health within 30 days from the date of the report.
- c. The Director of Health shall follow the applicable State procedures equivalent to 40 CFR Part 124 in terminating any NPDES permit under this section, except that if the entire discharge is permanently terminated by elimination of the flow or by connection to a publicly owned treatment works (but not by land application or disposal into a well), the Director of Health may terminate the permit by notice to the Permittee. Termination by notice shall be effective 30 days after notice is sent, unless the Permittee objects within that time. If the Permittee objects during that period, the Director of Health shall follow 40 CFR Part 124 of this chapter or applicable State procedures for termination. Expedited permit termination procedures are not available to Permittees that are subject to pending State or Federal of both enforcement actions including citizen suits brought under State or Federal law. If requesting expedited permit termination procedures, a Permittee must certify that it is not subject to any pending State or Federal enforcement actions including citizen suits brought under State or Federal law. State-authorized NPDES programs are not required to use 40 CFR Part 22 procedures for NPDES permit terminations.
- d. If the Director of Health tentatively decides to terminate a permit under 40 CFR §122.64 where the Permittee objects, the Director of Health shall issue a notice of

**STANDARD NPDES PERMIT CONDITIONS**  
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intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under 40 CFR §124.6.

**27. Removed substances** (under Section 405 of the Act and 40 CFR §125.3(g))

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner which would prevent any pollutant from the materials from entering navigable waters.

**28. Availability of reports** (under Section 308 of the Act)

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director of Health. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

**29. Civil and criminal liability** (under Section 309 of the Act)

Except as provided in permit conditions on "Bypass" (section 17) and "Upset" (section 18), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

**30. Oil and hazardous substance liability** (under Section 311 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.

**31. Federal facility construction** (under Section 313(b) of the Act)

Construction shall not be initiated for facilities for treatment of wastewater at any Federal property or facility if alternative methods for wastewater treatment at the property utilizing innovative treatment processes and techniques, including, but not limited to, methods utilizing recycle and reuse techniques and land treatment are not utilized, unless the life cycle cost of the alternative treatment works exceed the life cycle cost of the most effective alternative treatment by more than 15 per cent.

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**32. State law** (under Section 510 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established under any applicable State law or regulation.

**33. Severability** (under Section 512 of the Act)

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, if held invalid, the application of the provision to other circumstances, and remainder of this permit, shall not be affected thereby.

DEPARTMENT OF HEALTH

STATE OF HAWAII

CITY AND COUNTY OF HONOLULU,	)	DOCKET No. _____
	)	
Petitioner,	)	CERTIFICATE OF SERVICE
	)	
vs.	)	
	)	
DEPARTMENT OF HEALTH, STATE OF	)	
HAWAII,	)	
	)	
Respondent.	)	
_____	)	

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing document was served upon the following by means of U.S. mail, certified mail, and/or hand-delivery at their last known address(es) on March 14, 2014:

STEVEN JACOBSON, ESQ.  
State of Hawaii  
Department of Health  
Hearings Office  
1250 Punchbowl Street, 3<sup>rd</sup> Floor  
Honolulu, Hawaii 96813

**(HAND DELIVERY)**

LINDA M. ROSEN, M.D., PH.D.  
DIRECTOR OF HEALTH  
State of Hawaii  
Department of Health  
1250 Punchbowl Street, 3<sup>rd</sup> Floor  
Honolulu, Hawaii 96813

**(HAND DELIVERY)**

STUART YAMADA, P.E.  
CHIEF  
State of Hawaii  
Department of Health  
Environmental Management Division  
919 Ala Moana Boulevard, Room 300  
Honolulu, Hawaii 96814-4920

(CERTIFIED MAIL)

DATED: Honolulu, Hawaii, March 14, 2014.

DONNA Y. L. LEONG  
Corporation Counsel

By 

JEFF A. LAU  
Deputy Corporation Counsel  
Attorneys for Petitioner  
CITY AND COUNTY OF HONOLULU

DOCKET No. \_\_\_\_\_, CITY AND COUNTY OF HONOLULU VS.  
DEPARTMENT OF HEALTH, STATE OF HAWAII - REQUEST FOR CONTESTED CASE  
HEARING; DECLARATION OF JEFF A. LAU; EXHIBIT "A"; CERTIFICATE OF SERVICE

12-09120/324828